Please type a plus sign (+) inside this box [+]

PTO/SB/05 (2/98)

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for nonprovisional applications under 37 CFR § 1.53(b))

Attorney Docket No.	**210121.478C10**
First Inventor or Application Identifier	**Tongtong Wang**
Title	**COMPOSITIONS AND METHODS FOR THE THERAPY AND DIAGNOSIS OF LUNG CANCER**
Express Mail Label No.	**EL6125232081US**

APPLICATION ELEMENTS
See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

1. [ ] General Authorization Form & Fee Transmittal
(Submit an original and a duplicate for fee processing)

2. [x] Specification [Total Pages] **187**
(preferred arrangement set forth below)
- Descriptive Title of the Invention
- Cross References to Related Applications
- Statement Regarding Fed sponsored R & D
- Reference to Microfiche Appendix
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings *(if filed)*
- Detailed Description
- Claim(s)
- Abstract of the Disclosure

3. [ ] Drawing(s) *(35 USC 113)* [Total Sheets]

4. Oath or Declaration [Total Pages]

  a. [ ] Newly executed (original or copy)

  b. [ ] Copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 17 completed)

    i. [ ] DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b)

5. [ ] Incorporation By Reference *(useable if box 4b is checked)* The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered to be part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

6. [ ] Microfiche Computer Program *(Appendix)*

7. Nucleotide and Amino Acid Sequence Submission
(if applicable, all necessary)
  a. [x] Computer-Readable Copy
  b. [x] Paper Copy (identical to computer copy)
  c. [x] Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

8. [ ] Assignment Papers (cover sheet & document(s))

9. [ ] 37 CFR 3.73(b) Statement *(when there is an assignee)*   [ ] Power of Attorney

10. [ ] English Translation Document *(if applicable)*

11. [ ] Information Disclosure Statement (IDS)/PTO-1449   [ ] Copies of IDS Citations

12. [ ] Preliminary Amendment

13. [x] Return Receipt Postcard

14. [ ] Small Entity Statement(s)   [ ] Statement filed in prior application, Status still proper and desired

15. [ ] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*

16. [x] Other: Certificate of Express Mail

---

17. If a CONTINUING APPLICATION, *check appropriate box and supply the requisite information below and in a preliminary amendment*

[ ] Continuation   [ ] Divisional   [x] Continuation-In-Part (CIP)   of prior Application No.: **09/614,124**

Prior application information: Examiner **not assigned**   *Group / Art Unit* **not assigned**

[ ] Claims the benefit of Provisional Application No. _____

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Respectfully submitted,

TYPED or PRINTED NAME   **Jane E. R. Potter**

SIGNATURE _____

REGISTRATION NO. **33,332**

Date **August 29, 2000**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	Tongtong Wang, Medina, WA; Chaitanya S. Bangur, Seattle, WA; Michael J. Lodes, Seattle, WA; Gary R. Fanger, Mill Creek, WA; Thomas S. Vedvick, Federal Way, WA; Darrick Carter, Seattle, WA; Marc W. Retter, Carnation, WA; Jane Mannion, Edmonds, WA; Liqun Fan, Bellevue, WA
Filed	:	August 29, 2000
For	:	COMPOSITIONS AND METHODS FOR THE THERAPY AND DIAGNOSIS OF LUNG CANCER

Docket No. : 210121.478C10

Date : August 29, 2000

Box Patent Application
Assistant Commissioner for Patents
Washington, DC 20231

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

Assistant Commissioner for Patents:

I hereby certify that the enclosures listed below are being deposited with the United States Postal Service "EXPRESS MAIL Post Office to Addressee" service under 37 C.F.R. § 1.10, Mailing Label Certificate No. EL615232081US, on August 29, 2000, addressed to Box Patent Application, Assistant Commissioner for Patents, Washington, DC 20231.

Respectfully submitted,

Seed Intellectual Property Law Group PLLC

Steve Plante/Jeanette West/Susan Johnson

JEP:sds
Enclosures:
Postcard
Form PTO/SB/05
Specification, Claims, Abstract (187 pages)
Sequence Listing (518 pages)
Declaration for Sequence Listing
Diskette for Sequence Listing
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COMPOSITIONS AND METHODS FOR THE
THERAPY AND DIAGNOSIS OF LUNG CANCER

REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of U.S. Patent Application
No. 09/614,124, filed July 11, 2000, which is a continuation-in-part of U.S. Patent
Application No. 09/589,184, filed June 5, 2000, which is a continuation-in-part of U.S.
Patent Application No. 09/560,406, filed April 27, 2000, which is a continuation-in-part of
U.S. Patent Application No. 09/546,259, filed April 10, 2000, which is a continuation-in-
part of U.S. Patent Application No. 09/533,077, filed March 22, 2000, which is a
continuation-in-part of U.S. Patent Application No. 09/519,642 filed March 6, 2000, which
is a continuation-in-part of U.S. Patent Application No. 09/476,300, filed December 30,
1999, which is a continuation-in-part of U.S. Patent Application No. 09/466,867, filed
December 17, 1999, which is a continuation-in-part of U.S. Patent Application 09/419,356,
filed October 15, 1999, which is a continuation-in-part of U.S. Patent Application
No. 09/346,492, filed June 30, 1999, and is related to PCT/US00/18061, filed 6/30/00.

TECHNICAL FIELD OF THE INVENTION

The present invention relates generally to therapy and diagnosis of cancer,
such as lung cancer. The invention is more specifically related to polypeptides comprising
at least a portion of a lung tumor protein, and to polynucleotides encoding such
polypeptides. Such polypeptides and polynucleotides may be used in compositions for
prevention and treatment of lung cancer, and for the diagnosis and monitoring of such
cancers.

BACKGROUND OF THE INVENTION

Cancer is a significant health problem throughout the world. Although
advances have been made in detection and therapy of cancer, no vaccine or other
universally successful method for prevention or treatment is currently available. Current

therapies, which are generally based on a combination of chemotherapy or surgery and radiation, continue to prove inadequate in many patients.

Lung cancer is the primary cause of cancer death among both men and women in the U.S., with an estimated 172,000 new cases being reported in 1994. The five-

5 year survival rate among all lung cancer patients, regardless of the stage of disease at diagnosis, is only 13%. This contrasts with a five-year survival rate of 46% among cases detected while the disease is still localized. However, only 16% of lung cancers are discovered before the disease has spread.

Early detection is difficult since clinical symptoms are often not seen until

10 the disease has reached an advanced stage. Currently, diagnosis is aided by the use of chest x-rays, analysis of the type of cells contained in sputum and fiberoptic examination of the bronchial passages. Treatment regimens are determined by the type and stage of the cancer, and include surgery, radiation therapy and/or chemotherapy.

In spite of considerable research into therapies for this and other cancers,

15 lung cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating such cancers. The present invention fulfills these needs and further provides other related advantages.

SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for

20 the diagnosis and therapy of cancer, such as lung cancer. In one aspect, the present invention provides polypeptides comprising at least a portion of a lung tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises a sequence that is encoded by a

25 polynucleotide sequence selected from the group consisting of: (a) sequences recited in SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180,

181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808 and 810-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319,

5 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563, and 1669; (b) variants of a sequence recited in SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51,

10 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807,

15 808, 810-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563, and 1669; and

20 (c) complements of a sequence of (a) or (b). In specific embodiments, the polypeptides of the present invention comprise at least a portion of a tumor protein that includes an amino acid sequence selected from the group consisting of sequences recited in SEQ ID NO: 786, 787, 791, 793, 795, 797-799, 806, 809, 827, 1670-1675 and 1677-1678 and variants thereof.

25 The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a lung tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

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Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines, or immunogenic compositions, for prophylactic or therapeutic use are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and an immunostimulant.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a lung tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

Within related aspects, vaccines, or immunogenic compositions, are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) an immunostimulant.

The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.

Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines, or immunogenic compositions, are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with an immunostimulant.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or immunogenic composition as recited above. The patient

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may be afflicted with lung cancer, in which case the methods provide treatment for the disease, or patient considered at risk for such a disease may be treated prophylactically.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a lung tumor protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided, within other aspects, for stimulating and/or expanding T cells specific for a lung tumor protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the development of a cancer in a patient, comprising the steps of: (a) incubating $CD4^+$ and/or $CD8^+$ T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a lung tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expressed such a polypeptide; and (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

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Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a) contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the 5 binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be lung cancer.

The present invention also provides, within other aspects, methods for 10 monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) 15 comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that 20 hybridizes to a polynucleotide that encodes a lung tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of 25 mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an

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oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained

5   from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a lung tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount detected in step (b) and therefrom

10   monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as diagnostic kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

15   These and other aspects of the present invention will become apparent upon reference to the following detailed description. All references disclosed herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

SEQUENCE IDENTIFIERS

SEQ ID NO: 1 is the determined cDNA sequence for clone #19038, also

20   referred to as L845P.

SEQ ID NO: 2 is the determined cDNA sequence for clone #19036.

SEQ ID NO: 3 is the determined cDNA sequence for clone #19034.

SEQ ID NO: 4 is the determined cDNA sequence for clone #19033.

SEQ ID NO: 5 is the determined cDNA sequence for clone #19032.

25   SEQ ID NO: 6 is the determined cDNA sequence for clone #19030, also referred to as L559S.

SEQ ID NO: 7 is the determined cDNA sequence for clone #19029.

SEQ ID NO: 8 is the determined cDNA sequence for clone #19025.

SEQ ID NO: 9 is the determined cDNA sequence for clone #19023.

SEQ ID NO: 10 is the determined cDNA sequence for clone #18929.

SEQ ID NO: 11 is the determined cDNA sequence for clone #19010.

SEQ ID NO: 12 is the determined cDNA sequence for clone #19009.

5   SEQ ID NO: 13 is the determined cDNA sequence for clones #19005, 19007, 19016 and 19017.

SEQ ID NO: 14 is the determined cDNA sequence for clone #19004.

SEQ ID NO: 15 is the determined cDNA sequence for clones #19002 and 18965.

10   SEQ ID NO: 16 is the determined cDNA sequence for clone #18998.

SEQ ID NO: 17 is the determined cDNA sequence for clone #18997.

SEQ ID NO: 18 is the determined cDNA sequence for clone #18996.

SEQ ID NO: 19 is the determined cDNA sequence for clone #18995.

SEQ ID NO: 20 is the determined cDNA sequence for clone #18994, also

15   known as L846P.

SEQ ID NO: 21 is the determined cDNA sequence for clone #18992.

SEQ ID NO: 22 is the determined cDNA sequence for clone #18991.

SEQ ID NO: 23 is the determined cDNA sequence for clone #18990, also referred to as clone #20111.

20   SEQ ID NO: 24 is the determined cDNA sequence for clone #18987.

SEQ ID NO: 25 is the determined cDNA sequence for clone #18985, also referred as L839P.

SEQ ID NO: 26 is the determined cDNA sequence for clone #18984, also referred to as L847P.

25   SEQ ID NO: 27 is the determined cDNA sequence for clone #18983.

SEQ ID NO: 28 is the determined cDNA sequence for clones #18976 and 18980.

SEQ ID NO: 29 is the determined cDNA sequence for clone #18975.

SEQ ID NO: 30 is the determined cDNA sequence for clone #18974.

SEQ ID NO: 31 is the determined cDNA sequence for clone #18973.

SEQ ID NO: 32 is the determined cDNA sequence for clone #18972.

SEQ ID NO: 33 is the determined cDNA sequence for clone #18971, also referred to as L801P.

5   SEQ ID NO: 34 is the determined cDNA sequence for clone #18970.

SEQ ID NO: 35 is the determined cDNA sequence for clone #18966.

SEQ ID NO: 36 is the determined cDNA sequence for clones #18964, 18968 and 19039.

SEQ ID NO: 37 is the determined cDNA sequence for clone #18960.

10   SEQ ID NO: 38 is the determined cDNA sequence for clone #18959.

SEQ ID NO: 39 is the determined cDNA sequence for clones #18958 and 18982.

SEQ ID NO: 40 is the determined cDNA sequence for clones #18956 and 19015.

15   SEQ ID NO: 41 is the determined cDNA sequence for clone #18954, also referred to L848P.

SEQ ID NO: 42 is the determined cDNA sequence for clone #18951.

SEQ ID NO: 43 is the determined cDNA sequence for clone #18950.

SEQ ID NO: 44 is the determined cDNA sequence for clones #18949 and

20   19024, also referred to as L844P.

SEQ ID NO: 45 is the determined cDNA sequence for clone #18948.

SEQ ID NO: 46 is the determined cDNA sequence for clone #18947, also referred to as L840P.

SEQ ID NO: 47 is the determined cDNA sequence for clones #18946,

25   18953, 18969 and 19027.

SEQ ID NO: 48 is the determined cDNA sequence for clone #18942.

SEQ ID NO: 49 is the determined cDNA sequence for clone #18940, 18962, 18963, 19006, 19008, 19000, and 19031.

SEQ ID NO: 50 is the determined cDNA sequence for clone #18939.

SEQ ID NO: 51 is the determined cDNA sequence for clones #18938 and 18952.

SEQ ID NO: 52 is the determined cDNA sequence for clone #18938.

SEQ ID NO: 53 is the determined cDNA sequence for clone #18937.

5   SEQ ID NO: 54 is the determined cDNA sequence for clones #18934, 18935, 18993 and 19022, also referred to as L548S.

SEQ ID NO: 55 is the determined cDNA sequence for clone #18932.

SEQ ID NO: 56 is the determined cDNA sequence for clones #18931 and 18936.

10   SEQ ID NO: 57 is the determined cDNA sequence for clone #18930.

SEQ ID NO: 58 is the determined cDNA sequence for clone #19014, also referred to as L773P.

SEQ ID NO: 59 is the determined cDNA sequence for clone #19127.

SEQ ID NO: 60 is the determined cDNA sequence for clones #19057 and

15   19064.

SEQ ID NO: 61 is the determined cDNA sequence for clone #19122.

SEQ ID NO: 62 is the determined cDNA sequence for clones #19120 and 18121.

SEQ ID NO: 63 is the determined cDNA sequence for clone #19118.

20   SEQ ID NO: 64 is the determined cDNA sequence for clone #19117.

SEQ ID NO: 65 is the determined cDNA sequence for clone #19116.

SEQ ID NO: 66 is the determined cDNA sequence for clone #19114.

SEQ ID NO: 67 is the determined cDNA sequence for clone #19112, also known as L561S.

25   SEQ ID NO: 68 is the determined cDNA sequence for clone #19110.

SEQ ID NO: 69 is the determined cDNA sequence for clone #19107, also referred to as L552S.

SEQ ID NO: 70 is the determined cDNA sequence for clone #19106, also referred to as L547S.

SEQ ID NO: 71 is the determined cDNA sequence for clones #19105 and 19111.

SEQ ID NO: 72 is the determined cDNA sequence for clone #19099.

SEQ ID NO: 73 is the determined cDNA sequence for clones #19095, 19104 and 19125, also referred to as L549S.

SEQ ID NO: 74 is the determined cDNA sequence for clone #19094.

SEQ ID NO: 75 is the determined cDNA sequence for clones #19089 and 19101.

SEQ ID NO: 76 is the determined cDNA sequence for clone #19088.

SEQ ID NO: 77 is the determined cDNA sequence for clones #19087, 19092, 19096, 19100 and 19119.

SEQ ID NO: 78 is the determined cDNA sequence for clone #19086.

SEQ ID NO: 79 is the determined cDNA sequence for clone #19085, also referred to as L550S.

SEQ ID NO: 80 is the determined cDNA sequence for clone #19084, also referred to as clone #19079.

SEQ ID NO: 81 is the determined cDNA sequence for clone #19082.

SEQ ID NO: 82 is the determined cDNA sequence for clone #19080.

SEQ ID NO: 83 is the determined cDNA sequence for clone #19077.

SEQ ID NO: 84 is the determined cDNA sequence for clone #19076, also referred to as L551S.

SEQ ID NO: 85 is the determined cDNA sequence for clone #19074, also referred to as clone #20102.

SEQ ID NO: 86 is the determined cDNA sequence for clone #19073, also referred to as L560S.

SEQ ID NO: 87 is the determined cDNA sequence for clones #19072 and 19115.

SEQ ID NO: 88 is the determined cDNA sequence for clone #19071.

SEQ ID NO: 89 is the determined cDNA sequence for clone #19070.

SEQ ID NO: 90 is the determined cDNA sequence for clone #19069.

SEQ ID NO: 91 is the determined cDNA sequence for clone #19068, also referred to L563S.

SEQ ID NO: 92 is the determined cDNA sequence for clone #19066.

5   SEQ ID NO: 93 is the determined cDNA sequence for clone #19065.

SEQ ID NO: 94 is the determined cDNA sequence for clone #19063.

SEQ ID NO: 95 is the determined cDNA sequence for clones #19061, 19081, 19108 and 19109.

SEQ ID NO: 96 is the determined cDNA sequence for clones #19060, 10   19067 and 19083, also referred to as L548S.

SEQ ID NO: 97 is the determined cDNA sequence for clones #19059 and 19062.

SEQ ID NO: 98 is the determined cDNA sequence for clone #19058.

SEQ ID NO: 99 is the determined cDNA sequence for clone #19124.

15   SEQ ID NO: 100 is the determined cDNA sequence for clone #18929.

SEQ ID NO: 101 is the determined cDNA sequence for clone #18422.

SEQ ID NO: 102 is the determined cDNA sequence for clone #18425.

SEQ ID NO: 103 is the determined cDNA sequence for clone #18431.

SEQ ID NO: 104 is the determined cDNA sequence for clone #18433.

20   SEQ ID NO: 105 is the determined cDNA sequence for clone #18444.

SEQ ID NO: 106 is the determined cDNA sequence for clone #18449.

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SEQ ID NO: 108 is the determined cDNA sequence for clone #18452.

SEQ ID NO: 109 is the determined cDNA sequence for clone #18455.

25   SEQ ID NO: 110 is the determined cDNA sequence for clone #18457.

SEQ ID NO: 111 is the determined cDNA sequence for clone #18466.

SEQ ID NO: 112 is the determined cDNA sequence for clone #18468.

SEQ ID NO: 113 is the determined cDNA sequence for clone #18471.

SEQ ID NO: 114 is the determined cDNA sequence for clone #18475.

SEQ ID NO: 115 is the determined cDNA sequence for clone #18476.

SEQ ID NO: 116 is the determined cDNA sequence for clone #18477.

SEQ ID NO: 117 is the determined cDNA sequence for clone #20631.

SEQ ID NO: 118 is the determined cDNA sequence for clone #20634.

SEQ ID NO: 119 is the determined cDNA sequence for clone #20635.

SEQ ID NO: 120 is the determined cDNA sequence for clone #20637.

SEQ ID NO: 121 is the determined cDNA sequence for clone #20638.

SEQ ID NO: 122 is the determined cDNA sequence for clone #20643.

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SEQ ID NO: 124 is the determined cDNA sequence for clone #20653.

SEQ ID NO: 125 is the determined cDNA sequence for clone #20657.

SEQ ID NO: 126 is the determined cDNA sequence for clone #20658.

SEQ ID NO: 127 is the determined cDNA sequence for clone #20660.

SEQ ID NO: 128 is the determined cDNA sequence for clone #20661.

SEQ ID NO: 129 is the determined cDNA sequence for clone #20663.

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SEQ ID NO: 131 is the determined cDNA sequence for clone #20670.

SEQ ID NO: 132 is the determined cDNA sequence for clone #20671.

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SEQ ID NO: 134 is the determined cDNA sequence for clone #20675.

SEQ ID NO: 135 is the determined cDNA sequence for clone #20679.

SEQ ID NO: 136 is the determined cDNA sequence for clone #20681.

SEQ ID NO: 137 is the determined cDNA sequence for clone #20682.

SEQ ID NO: 138 is the determined cDNA sequence for clone #20684.

SEQ ID NO: 139 is the determined cDNA sequence for clone #20685.

SEQ ID NO: 140 is the determined cDNA sequence for clone #20689.

SEQ ID NO: 141 is the determined cDNA sequence for clone #20699.

SEQ ID NO: 142 is the determined cDNA sequence for clone #20701.

SEQ ID NO: 143 is the determined cDNA sequence for clone #20702.

SEQ ID NO: 144 is the determined cDNA sequence for clone #20708.

SEQ ID NO: 145 is the determined cDNA sequence for clone #20715.

SEQ ID NO: 146 is the determined cDNA sequence for clone #20716.

SEQ ID NO: 147 is the determined cDNA sequence for clone #20719.

5   SEQ ID NO: 148 is the determined cDNA sequence for clone #19129.

SEQ ID NO: 149 is the determined cDNA sequence for clone #19131.1.

SEQ ID NO: 150 is the determined cDNA sequence for clone #19132.2.

SEQ ID NO: 151 is the determined cDNA sequence for clone #19133.

SEQ ID NO: 152 is the determined cDNA sequence for clone #19134.2.

10   SEQ ID NO: 153 is the determined cDNA sequence for clone #19135.2.

SEQ ID NO: 154 is the determined cDNA sequence for clone #19137.

SEQ ID NO: 155 is a first determined cDNA sequence for clone #19138.1.

SEQ ID NO: 156 is a second determined cDNA sequence for clone #19138.2.

15   SEQ ID NO: 157 is the determined cDNA sequence for clone #19139.

SEQ ID NO: 158 is a first determined cDNA sequence for clone #19140.1.

SEQ ID NO: 159 is a second determined cDNA sequence for clone #19140.2.

SEQ ID NO: 160 is the determined cDNA sequence for clone #19141.

20   SEQ ID NO: 161 is the determined cDNA sequence for clone #19143.

SEQ ID NO: 162 is the determined cDNA sequence for clone #19144.

SEQ ID NO: 163 is a first determined cDNA sequence for clone #19145.1.

SEQ ID NO: 164 is a second determined cDNA sequence for clone #19145.2.

25   SEQ ID NO: 165 is the determined cDNA sequence for clone #19146.

SEQ ID NO: 166 is the determined cDNA sequence for clone #19149.1.

SEQ ID NO: 167 is the determined cDNA sequence for clone #19152.

SEQ ID NO: 168 is a first determined cDNA sequence for clone #19153.1.

SEQ ID NO: 169 is a second determined cDNA sequence for clone #19153.2.

SEQ ID NO: 170 is the determined cDNA sequence for clone #19155.

SEQ ID NO: 171 is the determined cDNA sequence for clone #19157.

5   SEQ ID NO: 172 is the determined cDNA sequence for clone #19159.

SEQ ID NO: 173 is the determined cDNA sequence for clone #19160.

SEQ ID NO: 174 is a first determined cDNA sequence for clone #19161.1.

SEQ ID NO: 175 is a second determined cDNA sequence for clone #19161.2.

10   SEQ ID NO: 176 is the determined cDNA sequence for clone #19162.1.

SEQ ID NO: 177 is the determined cDNA sequence for clone #19166.

SEQ ID NO: 178 is the determined cDNA sequence for clone #19169.

SEQ ID NO: 179 is the determined cDNA sequence for clone #19171.

SEQ ID NO: 180 is a first determined cDNA sequence for clone #19173.1.

15   SEQ ID NO: 181 is a second determined cDNA sequence for clone #19173.2.

SEQ ID NO: 182 is the determined cDNA sequence for clone #19174.1.

SEQ ID NO: 183 is the determined cDNA sequence for clone #19175.

SEQ ID NO: 184 is the determined cDNA sequence for clone #19177.

20   SEQ ID NO: 185 is the determined cDNA sequence for clone #19178.

SEQ ID NO: 186 is the determined cDNA sequence for clone #19179.1.

SEQ ID NO: 187 is the determined cDNA sequence for clone #19179.2.

SEQ ID NO: 188 is the determined cDNA sequence for clone #19180.

SEQ ID NO: 189 is a first determined cDNA sequence for clone #19182.1.

25   SEQ ID NO: 190 is a second determined cDNA sequence for clone #19182.2.

SEQ ID NO: 191 is the determined cDNA sequence for clone #19183.1.

SEQ ID NO: 192 is the determined cDNA sequence for clone #19185.1.

SEQ ID NO: 193 is the determined cDNA sequence for clone #19187.

SEQ ID NO: 194 is the determined cDNA sequence for clone #19188.

SEQ ID NO: 195 is the determined cDNA sequence for clone #19190.

SEQ ID NO: 196 is the determined cDNA sequence for clone #19191.

SEQ ID NO: 197 is the determined cDNA sequence for clone #19192.

5   SEQ ID NO: 198 is the determined cDNA sequence for clone #19193.

SEQ ID NO: 199 is a first determined cDNA sequence for clone #19194.1.

SEQ ID NO: 200 is a second determined cDNA sequence for clone #19194.2.

SEQ ID NO: 201 is the determined cDNA sequence for clone #19197.

10   SEQ ID NO: 202 is a first determined cDNA sequence for clone #19200.1.

SEQ ID NO: 203 is a second determined cDNA sequence for clone #19200.2.

SEQ ID NO: 204 is the determined cDNA sequence for clone #19202.

SEQ ID NO: 205 is a first determined cDNA sequence for clone #19204.1.

15   SEQ ID NO: 206 is a second determined cDNA sequence for clone #19204.2.

SEQ ID NO: 207 is the determined cDNA sequence for clone #19205.

SEQ ID NO: 208 is a first determined cDNA sequence for clone #19206.1.

SEQ ID NO: 209 is a second determined cDNA sequence for clone
20   #19206.2.

SEQ ID NO: 210 is the determined cDNA sequence for clone #19207.

SEQ ID NO: 211 is the determined cDNA sequence for clone #19208.

SEQ ID NO: 212 is a first determined cDNA sequence for clone #19211.1.

SEQ ID NO: 213 is a second determined cDNA sequence for clone
25   #19211.2.

SEQ ID NO: 214 is a first determined cDNA sequence for clone #19214.1.

SEQ ID NO: 215 is a second determined cDNA sequence for clone #19214.2.

SEQ ID NO: 216 is the determined cDNA sequence for clone #19215.

SEQ ID NO: 217 is a first determined cDNA sequence for clone #19217. 2.

SEQ ID NO: 218 is a second determined cDNA sequence for clone #19217.2.

SEQ ID NO: 219 is a first determined cDNA sequence for clone #19218.1.

5   SEQ ID NO: 220 is a second determined cDNA sequence for clone #19218.2.

SEQ ID NO: 221 is a first determined cDNA sequence for clone #19220.1.

SEQ ID NO: 222 is a second determined cDNA sequence for clone #19220.2.

10   SEQ ID NO: 223 is the determined cDNA sequence for clone #22015.

SEQ ID NO: 224 is the determined cDNA sequence for clone #22017.

SEQ ID NO: 225 is the determined cDNA sequence for clone #22019.

SEQ ID NO: 226 is the determined cDNA sequence for clone #22020.

SEQ ID NO: 227 is the determined cDNA sequence for clone #22023.

15   SEQ ID NO: 228 is the determined cDNA sequence for clone #22026.

SEQ ID NO: 229 is the determined cDNA sequence for clone #22027.

SEQ ID NO: 230 is the determined cDNA sequence for clone #22028.

SEQ ID NO: 231 is the determined cDNA sequence for clone #22032.

SEQ ID NO: 232 is the determined cDNA sequence for clone #22037.

20   SEQ ID NO: 233 is the determined cDNA sequence for clone #22045.

SEQ ID NO: 234 is the determined cDNA sequence for clone #22048.

SEQ ID NO: 235 is the determined cDNA sequence for clone #22050.

SEQ ID NO: 236 is the determined cDNA sequence for clone #22052.

SEQ ID NO: 237 is the determined cDNA sequence for clone #22053.

25   SEQ ID NO: 238 is the determined cDNA sequence for clone #22057.

SEQ ID NO: 239 is the determined cDNA sequence for clone #22066.

SEQ ID NO: 240 is the determined cDNA sequence for clone #22077.

SEQ ID NO: 241 is the determined cDNA sequence for clone #22085.

SEQ ID NO: 242 is the determined cDNA sequence for clone #22105.

SEQ ID NO: 243 is the determined cDNA sequence for clone #22108.

SEQ ID NO: 244 is the determined cDNA sequence for clone #22109.

SEQ ID NO: 245 is the determined cDNA sequence for clone #24842.

SEQ ID NO: 246 is the determined cDNA sequence for clone #24843.

5   SEQ ID NO: 247 is the determined cDNA sequence for clone #24845.

SEQ ID NO: 248 is the determined cDNA sequence for clone #24851.

SEQ ID NO: 249 is the determined cDNA sequence for clone #24852.

SEQ ID NO: 250 is the determined cDNA sequence for clone #24853.

SEQ ID NO: 251 is the determined cDNA sequence for clone #24854.

10   SEQ ID NO: 252 is the determined cDNA sequence for clone #24855.

SEQ ID NO: 253 is the determined cDNA sequence for clone #24860.

SEQ ID NO: 254 is the determined cDNA sequence for clone #24864.

SEQ ID NO: 255 is the determined cDNA sequence for clone #24866.

SEQ ID NO: 256 is the determined cDNA sequence for clone #24867.

15   SEQ ID NO: 257 is the determined cDNA sequence for clone #24868.

SEQ ID NO: 258 is the determined cDNA sequence for clone #24869.

SEQ ID NO: 259 is the determined cDNA sequence for clone #24870.

SEQ ID NO: 260 is the determined cDNA sequence for clone #24872.

SEQ ID NO: 261 is the determined cDNA sequence for clone #24873.

20   SEQ ID NO: 262 is the determined cDNA sequence for clone #24875.

SEQ ID NO: 263 is the determined cDNA sequence for clone #24882.

SEQ ID NO: 264 is the determined cDNA sequence for clone #24885.

SEQ ID NO: 265 is the determined cDNA sequence for clone #24886.

SEQ ID NO: 266 is the determined cDNA sequence for clone #24887.

25   SEQ ID NO: 267 is the determined cDNA sequence for clone #24888.

SEQ ID NO: 268 is the determined cDNA sequence for clone #24890.

SEQ ID NO: 269 is the determined cDNA sequence for clone #24896.

SEQ ID NO: 270 is the determined cDNA sequence for clone #24897.

SEQ ID NO: 271 is the determined cDNA sequence for clone #24899.

SEQ ID NO: 272 is the determined cDNA sequence for clone #24901.

SEQ ID NO: 273 is the determined cDNA sequence for clone #24902.

SEQ ID NO: 274 is the determined cDNA sequence for clone #24906.

SEQ ID NO: 275 is the determined cDNA sequence for clone #24912.

SEQ ID NO: 276 is the determined cDNA sequence for clone #24913.

SEQ ID NO: 277 is the determined cDNA sequence for clone #24920.

SEQ ID NO: 278 is the determined cDNA sequence for clone #24927.

SEQ ID NO: 279 is the determined cDNA sequence for clone #24930.

SEQ ID NO: 280 is the determined cDNA sequence for clone #26938.

SEQ ID NO: 281 is the determined cDNA sequence for clone #26939.

SEQ ID NO: 282 is the determined cDNA sequence for clone #26943.

SEQ ID NO: 283 is the determined cDNA sequence for clone #26948.

SEQ ID NO: 284 is the determined cDNA sequence for clone #26951.

SEQ ID NO: 285 is the determined cDNA sequence for clone #26955.

SEQ ID NO: 286 is the determined cDNA sequence for clone #26956.

SEQ ID NO: 287 is the determined cDNA sequence for clone #26959.

SEQ ID NO: 288 is the determined cDNA sequence for clone #26961.

SEQ ID NO: 289 is the determined cDNA sequence for clone #26962.

SEQ ID NO: 290 is the determined cDNA sequence for clone #26964.

SEQ ID NO: 291 is the determined cDNA sequence for clone #26966.

SEQ ID NO: 292 is the determined cDNA sequence for clone #26968.

SEQ ID NO: 293 is the determined cDNA sequence for clone #26972.

SEQ ID NO: 294 is the determined cDNA sequence for clone #26973.

SEQ ID NO: 295 is the determined cDNA sequence for clone #26974.

SEQ ID NO: 296 is the determined cDNA sequence for clone #26976.

SEQ ID NO: 297 is the determined cDNA sequence for clone #26977.

SEQ ID NO: 298 is the determined cDNA sequence for clone #26979.

SEQ ID NO: 299 is the determined cDNA sequence for clone #26980.

SEQ ID NO: 300 is the determined cDNA sequence for clone #26981.

SEQ ID NO: 301 is the determined cDNA sequence for clone #26984.

SEQ ID NO: 302 is the determined cDNA sequence for clone #26985.

SEQ ID NO: 303 is the determined cDNA sequence for clone #26986.

SEQ ID NO: 304 is the determined cDNA sequence for clone #26993.

SEQ ID NO: 305 is the determined cDNA sequence for clone #26994.

SEQ ID NO: 306 is the determined cDNA sequence for clone #26995.

SEQ ID NO: 307 is the determined cDNA sequence for clone #27003.

SEQ ID NO: 308 is the determined cDNA sequence for clone #27005.

SEQ ID NO: 309 is the determined cDNA sequence for clone #27010.

SEQ ID NO: 310 is the determined cDNA sequence for clone #27011.

SEQ ID NO: 311 is the determined cDNA sequence for clone #27013.

SEQ ID NO: 312 is the determined cDNA sequence for clone #27016

SEQ ID NO: 313 is the determined cDNA sequence for clone #27017.

SEQ ID NO: 314 is the determined cDNA sequence for clone #27019.

SEQ ID NO: 315 is the determined cDNA sequence for clone #27028.

SEQ ID NO: 316 is the full-length cDNA sequence for clone #19060.

SEQ ID NO: 317 is the full-length cDNA sequence for clone #18964.

SEQ ID NO: 318 is the full-length cDNA sequence for clone #18929.

SEQ ID NO: 319 is the full-length cDNA sequence for clone #18991.

SEQ ID NO: 320 is the full-length cDNA sequence for clone #18996.

SEQ ID NO: 321 is the full-length cDNA sequence for clone #18966.

SEQ ID NO: 322 is the full-length cDNA sequence for clone #18951.

SEQ ID NO: 323 is the full-length cDNA sequence for clone #18973 (also known as L516S).

SEQ ID NO: 324 is the amino acid sequence for clone #19060.

SEQ ID NO: 325 is the amino acid sequence for clone #19063.

SEQ ID NO: 326 is the amino acid sequence for clone #19077.

SEQ ID NO: 327 is the amino acid sequence for clone #19110.

SEQ ID NO: 328 is the amino acid sequence for clone #19122.

SEQ ID NO: 329 is the amino acid sequence for clone #19118.

SEQ ID NO: 330 is the amino acid sequence for clone #19080.

SEQ ID NO: 331 is the amino acid sequence for clone #19127.

SEQ ID NO: 332 is the amino acid sequence for clone #19117.

5   SEQ ID NO: 333 is the amino acid sequence for clone #19095, also referred

to L549S.

SEQ ID NO: 334 is the amino acid sequence for clone #18964.

SEQ ID NO: 335 is the amino acid sequence for clone #18929.

SEQ ID NO: 336 is the amino acid sequence for clone #18991.

10   SEQ ID NO: 337 is the amino acid sequence for clone #18996.

SEQ ID NO: 338 is the amino acid sequence for clone #18966.

SEQ ID NO: 339 is the amino acid sequence for clone #18951.

SEQ ID NO: 340 is the amino acid sequence for clone #18973.

SEQ ID NO: 341 is the determined cDNA sequence for clone 26461.

15   SEQ ID NO: 342 is the determined cDNA sequence for clone 26462.

SEQ ID NO: 343 is the determined cDNA sequence for clone 26463.

SEQ ID NO: 344 is the determined cDNA sequence for clone 26464.

SEQ ID NO: 345 is the determined cDNA sequence for clone 26465.

SEQ ID NO: 346 is the determined cDNA sequence for clone 26466.

20   SEQ ID NO: 347 is the determined cDNA sequence for clone 26467.

SEQ ID NO: 348 is the determined cDNA sequence for clone 26468.

SEQ ID NO: 349 is the determined cDNA sequence for clone 26469.

SEQ ID NO: 350 is the determined cDNA sequence for clone 26470.

SEQ ID NO: 351 is the determined cDNA sequence for clone 26471.

25   SEQ ID NO: 352 is the determined cDNA sequence for clone 26472.

SEQ ID NO: 353 is the determined cDNA sequence for clone 26474.

SEQ ID NO: 354 is the determined cDNA sequence for clone 26475.

SEQ ID NO: 355 is the determined cDNA sequence for clone 26476.

SEQ ID NO: 356 is the determined cDNA sequence for clone 26477.

SEQ ID NO: 357 is the determined cDNA sequence for clone 26478.

SEQ ID NO: 358 is the determined cDNA sequence for clone 26479.

SEQ ID NO: 359 is the determined cDNA sequence for clone 26480.

SEQ ID NO: 360 is the determined cDNA sequence for clone 26481.

5   SEQ ID NO: 361 is the determined cDNA sequence for clone 26482

SEQ ID NO: 362 is the determined cDNA sequence for clone 26483.

SEQ ID NO: 363 is the determined cDNA sequence for clone 26484.

SEQ ID NO: 364 is the determined cDNA sequence for clone 26485.

SEQ ID NO: 365 is the determined cDNA sequence for clone 26486.

10   SEQ ID NO: 366 is the determined cDNA sequence for clone 26487.

SEQ ID NO: 367 is the determined cDNA sequence for clone 26488.

SEQ ID NO: 368 is the determined cDNA sequence for clone 26489.

SEQ ID NO: 369 is the determined cDNA sequence for clone 26490.

SEQ ID NO: 370 is the determined cDNA sequence for clone 26491.

15   SEQ ID NO: 371 is the determined cDNA sequence for clone 26492.

SEQ ID NO: 372 is the determined cDNA sequence for clone 26493.

SEQ ID NO: 373 is the determined cDNA sequence for clone 26494.

SEQ ID NO: 374 is the determined cDNA sequence for clone 26495.

SEQ ID NO: 375 is the determined cDNA sequence for clone 26496.

20   SEQ ID NO: 376 is the determined cDNA sequence for clone 26497.

SEQ ID NO: 377 is the determined cDNA sequence for clone 26498.

SEQ ID NO: 378 is the determined cDNA sequence for clone 26499.

SEQ ID NO: 379 is the determined cDNA sequence for clone 26500.

SEQ ID NO: 380 is the determined cDNA sequence for clone 26501.

25   SEQ ID NO: 381 is the determined cDNA sequence for clone 26502.

SEQ ID NO: 382 is the determined cDNA sequence for clone 26503.

SEQ ID NO: 383 is the determined cDNA sequence for clone 26504.

SEQ ID NO: 384 is the determined cDNA sequence for clone 26505.

SEQ ID NO: 385 is the determined cDNA sequence for clone 26506.

SEQ ID NO: 386 is the determined cDNA sequence for clone 26507.

SEQ ID NO: 387 is the determined cDNA sequence for clone 26508.

SEQ ID NO: 388 is the determined cDNA sequence for clone 26509.

SEQ ID NO: 389 is the determined cDNA sequence for clone 26511.

SEQ ID NO: 390 is the determined cDNA sequence for clone 26513.

SEQ ID NO: 391 is the determined cDNA sequence for clone 26514.

SEQ ID NO: 392 is the determined cDNA sequence for clone 26515.

SEQ ID NO: 393 is the determined cDNA sequence for clone 26516.

SEQ ID NO: 394 is the determined cDNA sequence for clone 26517.

SEQ ID NO: 395 is the determined cDNA sequence for clone 26518.

SEQ ID NO: 396 is the determined cDNA sequence for clone 26519.

SEQ ID NO: 397 is the determined cDNA sequence for clone 26520.

SEQ ID NO: 398 is the determined cDNA sequence for clone 26521.

SEQ ID NO: 399 is the determined cDNA sequence for clone 26522.

SEQ ID NO: 400 is the determined cDNA sequence for clone 26523.

SEQ ID NO: 401 is the determined cDNA sequence for clone 26524.

SEQ ID NO: 402 is the determined cDNA sequence for clone 26526.

SEQ ID NO: 403 is the determined cDNA sequence for clone 26527.

SEQ ID NO: 404 is the determined cDNA sequence for clone 26528.

SEQ ID NO: 405 is the determined cDNA sequence for clone 26529.

SEQ ID NO: 406 is the determined cDNA sequence for clone 26530.

SEQ ID NO: 407 is the determined cDNA sequence for clone 26532.

SEQ ID NO: 408 is the determined cDNA sequence for clone 26533.

SEQ ID NO: 409 is the determined cDNA sequence for clone 26534.

SEQ ID NO: 410 is the determined cDNA sequence for clone 26535.

SEQ ID NO: 411 is the determined cDNA sequence for clone 26536.

SEQ ID NO: 412 is the determined cDNA sequence for clone 26537.

SEQ ID NO: 413 is the determined cDNA sequence for clone 26538.

SEQ ID NO: 414 is the determined cDNA sequence for clone 26540.

SEQ ID NO: 415 is the determined cDNA sequence for clone 26541.

SEQ ID NO: 416 is the determined cDNA sequence for clone 26542.

SEQ ID NO: 417 is the determined cDNA sequence for clone 26543.

SEQ ID NO: 418 is the determined cDNA sequence for clone 26544.

SEQ ID NO: 419 is the determined cDNA sequence for clone 26546.

SEQ ID NO: 420 is the determined cDNA sequence for clone 26547.

SEQ ID NO: 421 is the determined cDNA sequence for clone 26548.

SEQ ID NO: 422 is the determined cDNA sequence for clone 26549.

SEQ ID NO: 423 is the determined cDNA sequence for clone 26550.

SEQ ID NO: 424 is the determined cDNA sequence for clone 26551.

SEQ ID NO: 425 is the determined cDNA sequence for clone 26552.

SEQ ID NO: 426 is the determined cDNA sequence for clone 26553.

SEQ ID NO: 427 is the determined cDNA sequence for clone 26554.

SEQ ID NO: 428 is the determined cDNA sequence for clone 26556.

SEQ ID NO: 429 is the determined cDNA sequence for clone 26557.

SEQ ID NO: 430 is the determined cDNA sequence for clone 27631.

SEQ ID NO: 431 is the determined cDNA sequence for clone 27632.

SEQ ID NO: 432 is the determined cDNA sequence for clone 27633.

SEQ ID NO: 433 is the determined cDNA sequence for clone 27635.

SEQ ID NO: 434 is the determined cDNA sequence for clone 27636.

SEQ ID NO: 435 is the determined cDNA sequence for clone 27637.

SEQ ID NO: 436 is the determined cDNA sequence for clone 27638.

SEQ ID NO: 437 is the determined cDNA sequence for clone 27639.

SEQ ID NO: 438 is the determined cDNA sequence for clone 27640.

SEQ ID NO: 439 is the determined cDNA sequence for clone 27641.

SEQ ID NO: 440 is the determined cDNA sequence for clone 27642.

SEQ ID NO: 441 is the determined cDNA sequence for clone 27644.

SEQ ID NO: 442 is the determined cDNA sequence for clone 27646.

SEQ ID NO: 443 is the determined cDNA sequence for clone 27647.

SEQ ID NO: 444 is the determined cDNA sequence for clone 27649.

SEQ ID NO: 445 is the determined cDNA sequence for clone 27650.

SEQ ID NO: 446 is the determined cDNA sequence for clone 27651.

SEQ ID NO: 447 is the determined cDNA sequence for clone 27652.

5   SEQ ID NO: 448 is the determined cDNA sequence for clone 27654.

SEQ ID NO: 449 is the determined cDNA sequence for clone 27655.

SEQ ID NO: 450 is the determined cDNA sequence for clone 27657.

SEQ ID NO: 451 is the determined cDNA sequence for clone 27659.

SEQ ID NO: 452 is the determined cDNA sequence for clone 27665.

10   SEQ ID NO: 453 is the determined cDNA sequence for clone 27666.

SEQ ID NO: 454 is the determined cDNA sequence for clone 27668.

SEQ ID NO: 455 is the determined cDNA sequence for clone 27670.

SEQ ID NO: 456 is the determined cDNA sequence for clone 27671.

SEQ ID NO: 457 is the determined cDNA sequence for clone 27672.

15   SEQ ID NO: 458 is the determined cDNA sequence for clone 27674.

SEQ ID NO: 459 is the determined cDNA sequence for clone 27677.

SEQ ID NO: 460 is the determined cDNA sequence for clone 27681.

SEQ ID NO: 461 is the determined cDNA sequence for clone 27682.

SEQ ID NO: 462 is the determined cDNA sequence for clone 27683.

20   SEQ ID NO: 463 is the determined cDNA sequence for clone 27686.

SEQ ID NO: 464 is the determined cDNA sequence for clone 27688.

SEQ ID NO: 465 is the determined cDNA sequence for clone 27689.

SEQ ID NO: 466 is the determined cDNA sequence for clone 27690.

SEQ ID NO: 467 is the determined cDNA sequence for clone 27693.

25   SEQ ID NO: 468 is the determined cDNA sequence for clone 27699.

SEQ ID NO: 469 is the determined cDNA sequence for clone 27700.

SEQ ID NO: 470 is the determined cDNA sequence for clone 27702.

SEQ ID NO: 471 is the determined cDNA sequence for clone 27705.

SEQ ID NO: 472 is the determined cDNA sequence for clone 27706.

SEQ ID NO: 473 is the determined cDNA sequence for clone 27707.

SEQ ID NO: 474 is the determined cDNA sequence for clone 27708.

SEQ ID NO: 475 is the determined cDNA sequence for clone 27709.

SEQ ID NO: 476 is the determined cDNA sequence for clone 27710.

5   SEQ ID NO: 477 is the determined cDNA sequence for clone 27711.

SEQ ID NO: 478 is the determined cDNA sequence for clone 27712.

SEQ ID NO: 479 is the determined cDNA sequence for clone 27713.

SEQ ID NO: 480 is the determined cDNA sequence for clone 27714.

SEQ ID NO: 481 is the determined cDNA sequence for clone 27715.

10   SEQ ID NO: 482 is the determined cDNA sequence for clone 27716.

SEQ ID NO: 483 is the determined cDNA sequence for clone 27717.

SEQ ID NO: 484 is the determined cDNA sequence for clone 27718.

SEQ ID NO: 485 is the determined cDNA sequence for clone 27719.

SEQ ID NO: 486 is the determined cDNA sequence for clone 27720.

15   SEQ ID NO: 487 is the determined cDNA sequence for clone 27722.

SEQ ID NO: 488 is the determined cDNA sequence for clone 27723.

SEQ ID NO: 489 is the determined cDNA sequence for clone 27724.

SEQ ID NO: 490 is the determined cDNA sequence for clone 27726.

SEQ ID NO: 491 is the determined cDNA sequence for clone 25015.

20   SEQ ID NO: 492 is the determined cDNA sequence for clone 25016.

SEQ ID NO: 493 is the determined cDNA sequence for clone 25017.

SEQ ID NO: 494 is the determined cDNA sequence for clone 25018

SEQ ID NO: 495 is the determined cDNA sequence for clone 25030.

SEQ ID NO: 496 is the determined cDNA sequence for clone 25033.

25   SEQ ID NO: 497 is the determined cDNA sequence for clone 25034.

SEQ ID NO: 498 is the determined cDNA sequence for clone 25035.

SEQ ID NO: 499 is the determined cDNA sequence for clone 25036.

SEQ ID NO: 500 is the determined cDNA sequence for clone 25037.

SEQ ID NO: 501 is the determined cDNA sequence for clone 25038.

SEQ ID NO: 502 is the determined cDNA sequence for clone 25039.

SEQ ID NO: 503 is the determined cDNA sequence for clone 25040.

SEQ ID NO: 504 is the determined cDNA sequence for clone 25042.

SEQ ID NO: 505 is the determined cDNA sequence for clone 25043.

5   SEQ ID NO: 506 is the determined cDNA sequence for clone 25044.

SEQ ID NO: 507 is the determined cDNA sequence for clone 25045.

SEQ ID NO: 508 is the determined cDNA sequence for clone 25047.

SEQ ID NO: 509 is the determined cDNA sequence for clone 25048.

SEQ ID NO: 510 is the determined cDNA sequence for clone 25049.

10   SEQ ID NO: 511 is the determined cDNA sequence for clone 25185.

SEQ ID NO: 512 is the determined cDNA sequence for clone 25186.

SEQ ID NO: 513 is the determined cDNA sequence for clone 25187.

SEQ ID NO: 514 is the determined cDNA sequence for clone 25188.

SEQ ID NO: 515 is the determined cDNA sequence for clone 25189.

15   SEQ ID NO: 516 is the determined cDNA sequence for clone 25190.

SEQ ID NO: 517 is the determined cDNA sequence for clone 25193.

SEQ ID NO: 518 is the determined cDNA sequence for clone 25194.

SEQ ID NO: 519 is the determined cDNA sequence for clone 25196.

SEQ ID NO: 520 is the determined cDNA sequence for clone 25198.

20   SEQ ID NO: 521 is the determined cDNA sequence for clone 25199.

SEQ ID NO: 522 is the determined cDNA sequence for clone 25200.

SEQ ID NO: 523 is the determined cDNA sequence for clone 25202.

SEQ ID NO: 524 is the determined cDNA sequence for clone 25364.

SEQ ID NO: 525 is the determined cDNA sequence for clone 25366.

25   SEQ ID NO: 526 is the determined cDNA sequence for clone 25367.

SEQ ID NO: 527 is the determined cDNA sequence for clone 25368.

SEQ ID NO: 528 is the determined cDNA sequence for clone 25369.

SEQ ID NO: 529 is the determined cDNA sequence for clone 25370.

SEQ ID NO: 530 is the determined cDNA sequence for clone 25371.

SEQ ID NO: 531 is the determined cDNA sequence for clone 25372.

SEQ ID NO: 532 is the determined cDNA sequence for clone 25373.

SEQ ID NO: 533 is the determined cDNA sequence for clone 25374.

SEQ ID NO: 534 is the determined cDNA sequence for clone 25376.

SEQ ID NO: 535 is the determined cDNA sequence for clone 25377.

SEQ ID NO: 536 is the determined cDNA sequence for clone 25378.

SEQ ID NO: 537 is the determined cDNA sequence for clone 25379.

SEQ ID NO: 538 is the determined cDNA sequence for clone 25380.

SEQ ID NO: 539 is the determined cDNA sequence for clone 25381.

SEQ ID NO: 540 is the determined cDNA sequence for clone 25382.

SEQ ID NO: 541 is the determined cDNA sequence for clone 25383.

SEQ ID NO: 542 is the determined cDNA sequence for clone 25385.

SEQ ID NO: 543 is the determined cDNA sequence for clone 25386.

SEQ ID NO: 544 is the determined cDNA sequence for clone 25387.

SEQ ID NO: 545 is the determined cDNA sequence for clone 26013.

SEQ ID NO: 546 is the determined cDNA sequence for clone 26014.

SEQ ID NO: 547 is the determined cDNA sequence for clone 26016.

SEQ ID NO: 548 is the determined cDNA sequence for clone 26017.

SEQ ID NO: 549 is the determined cDNA sequence for clone 26018.

SEQ ID NO: 550 is the determined cDNA sequence for clone 26019.

SEQ ID NO: 551 is the determined cDNA sequence for clone 26020.

SEQ ID NO: 552 is the determined cDNA sequence for clone 26021.

SEQ ID NO: 553 is the determined cDNA sequence for clone 26022.

SEQ ID NO: 554 is the determined cDNA sequence for clone 26027.

SEQ ID NO: 555 is the determined cDNA sequence for clone 26197.

SEQ ID NO: 556 is the determined cDNA sequence for clone 26199.

SEQ ID NO: 557 is the determined cDNA sequence for clone 26201.

SEQ ID NO: 558 is the determined cDNA sequence for clone 26202.

SEQ ID NO: 559 is the determined cDNA sequence for clone 26203.

SEQ ID NO: 560 is the determined cDNA sequence for clone 26204.

SEQ ID NO: 561 is the determined cDNA sequence for clone 26205.

SEQ ID NO: 562 is the determined cDNA sequence for clone 26206.

SEQ ID NO: 563 is the determined cDNA sequence for clone 26208.

5 SEQ ID NO: 564 is the determined cDNA sequence for clone 26211.

SEQ ID NO: 565 is the determined cDNA sequence for clone 26212.

SEQ ID NO: 566 is the determined cDNA sequence for clone 26213.

SEQ ID NO: 567 is the determined cDNA sequence for clone 26214.

SEQ ID NO: 568 is the determined cDNA sequence for clone 26215.

10 SEQ ID NO: 569 is the determined cDNA sequence for clone 26216.

SEQ ID NO: 570 is the determined cDNA sequence for clone 26217.

SEQ ID NO: 571 is the determined cDNA sequence for clone 26218.

SEQ ID NO: 572 is the determined cDNA sequence for clone 26219.

SEQ ID NO: 573 is the determined cDNA sequence for clone 26220.

15 SEQ ID NO: 574 is the determined cDNA sequence for clone 26221.

SEQ ID NO: 575 is the determined cDNA sequence for clone 26224.

SEQ ID NO: 576 is the determined cDNA sequence for clone 26225.

SEQ ID NO: 577 is the determined cDNA sequence for clone 26226.

SEQ ID NO: 578 is the determined cDNA sequence for clone 26227.

20 SEQ ID NO: 579 is the determined cDNA sequence for clone 26228.

SEQ ID NO: 580 is the determined cDNA sequence for clone 26230.

SEQ ID NO: 581 is the determined cDNA sequence for clone 26231.

SEQ ID NO: 582 is the determined cDNA sequence for clone 26234.

SEQ ID NO: 583 is the determined cDNA sequence for clone 26236.

25 SEQ ID NO: 584 is the determined cDNA sequence for clone 26237.

SEQ ID NO: 585 is the determined cDNA sequence for clone 26239.

SEQ ID NO: 586 is the determined cDNA sequence for clone 26240.

SEQ ID NO: 587 is the determined cDNA sequence for clone 26241.

SEQ ID NO: 588 is the determined cDNA sequence for clone 26242.

SEQ ID NO: 589 is the determined cDNA sequence for clone 26246.

SEQ ID NO: 590 is the determined cDNA sequence for clone 26247.

SEQ ID NO: 591 is the determined cDNA sequence for clone 26248.

SEQ ID NO: 592 is the determined cDNA sequence for clone 26249.

SEQ ID NO: 593 is the determined cDNA sequence for clone 26250.

SEQ ID NO: 594 is the determined cDNA sequence for clone 26251.

SEQ ID NO: 595 is the determined cDNA sequence for clone 26252.

SEQ ID NO: 596 is the determined cDNA sequence for clone 26253.

SEQ ID NO: 597 is the determined cDNA sequence for clone 26254.

SEQ ID NO: 598 is the determined cDNA sequence for clone 26255.

SEQ ID NO: 599 is the determined cDNA sequence for clone 26256.

SEQ ID NO: 600 is the determined cDNA sequence for clone 26257.

SEQ ID NO: 601 is the determined cDNA sequence for clone 26259.

SEQ ID NO: 602 is the determined cDNA sequence for clone 26260.

SEQ ID NO: 603 is the determined cDNA sequence for clone 26261.

SEQ ID NO: 604 is the determined cDNA sequence for clone 26262.

SEQ ID NO: 605 is the determined cDNA sequence for clone 26263.

SEQ ID NO: 606 is the determined cDNA sequence for clone 26264.

SEQ ID NO: 607 is the determined cDNA sequence for clone 26265.

SEQ ID NO: 608 is the determined cDNA sequence for clone 26266.

SEQ ID NO: 609 is the determined cDNA sequence for clone 26268.

SEQ ID NO: 610 is the determined cDNA sequence for clone 26269.

SEQ ID NO: 611 is the determined cDNA sequence for clone 26271.

SEQ ID NO: 612 is the determined cDNA sequence for clone 26273.

SEQ ID NO: 613 is the determined cDNA sequence for clone 26810.

SEQ ID NO: 614 is the determined cDNA sequence for clone 26811.

SEQ ID NO: 615 is the determined cDNA sequence for clone 26812.1.

SEQ ID NO: 616 is the determined cDNA sequence for clone 26812.2.

SEQ ID NO: 617 is the determined cDNA sequence for clone 26813.

SEQ ID NO: 618 is the determined cDNA sequence for clone 26814.

SEQ ID NO: 619 is the determined cDNA sequence for clone 26815.

SEQ ID NO: 620 is the determined cDNA sequence for clone 26816.

SEQ ID NO: 621 is the determined cDNA sequence for clone 26818.

5   SEQ ID NO: 622 is the determined cDNA sequence for clone 26819.

SEQ ID NO: 623 is the determined cDNA sequence for clone 26820.

SEQ ID NO: 624 is the determined cDNA sequence for clone 26821.

SEQ ID NO: 625 is the determined cDNA sequence for clone 26822.

SEQ ID NO: 626 is the determined cDNA sequence for clone 26824.

10   SEQ ID NO: 627 is the determined cDNA sequence for clone 26825.

SEQ ID NO: 628 is the determined cDNA sequence for clone 26826.

SEQ ID NO: 629 is the determined cDNA sequence for clone 26827.

SEQ ID NO: 630 is the determined cDNA sequence for clone 26829.

SEQ ID NO: 631 is the determined cDNA sequence for clone 26830.

15   SEQ ID NO: 632 is the determined cDNA sequence for clone 26831.

SEQ ID NO: 633 is the determined cDNA sequence for clone 26832.

SEQ ID NO: 634 is the determined cDNA sequence for clone 26835.

SEQ ID NO: 635 is the determined cDNA sequence for clone 26836.

SEQ ID NO: 636 is the determined cDNA sequence for clone 26837.

20   SEQ ID NO: 637 is the determined cDNA sequence for clone 26839.

SEQ ID NO: 638 is the determined cDNA sequence for clone 26841.

SEQ ID NO: 639 is the determined cDNA sequence for clone 26843.

SEQ ID NO: 640 is the determined cDNA sequence for clone 26844.

SEQ ID NO: 641 is the determined cDNA sequence for clone 26845.

25   SEQ ID NO: 642 is the determined cDNA sequence for clone 26846.

SEQ ID NO: 643 is the determined cDNA sequence for clone 26847.

SEQ ID NO: 644 is the determined cDNA sequence for clone 26848.

SEQ ID NO: 645 is the determined cDNA sequence for clone 26849.

SEQ ID NO: 646 is the determined cDNA sequence for clone 26850.

SEQ ID NO: 647 is the determined cDNA sequence for clone 26851.

SEQ ID NO: 648 is the determined cDNA sequence for clone 26852.

SEQ ID NO: 649 is the determined cDNA sequence for clone 26853.

SEQ ID NO: 650 is the determined cDNA sequence for clone 26854.

SEQ ID NO: 651 is the determined cDNA sequence for clone 26856.

SEQ ID NO: 652 is the determined cDNA sequence for clone 26857.

SEQ ID NO: 653 is the determined cDNA sequence for clone 26858.

SEQ ID NO: 654 is the determined cDNA sequence for clone 26859.

SEQ ID NO: 655 is the determined cDNA sequence for clone 26860.

SEQ ID NO: 656 is the determined cDNA sequence for clone 26862.

SEQ ID NO: 657 is the determined cDNA sequence for clone 26863.

SEQ ID NO: 658 is the determined cDNA sequence for clone 26864.

SEQ ID NO: 659 is the determined cDNA sequence for clone 26865.

SEQ ID NO: 660 is the determined cDNA sequence for clone 26867.

SEQ ID NO: 661 is the determined cDNA sequence for clone 26868.

SEQ ID NO: 662 is the determined cDNA sequence for clone 26871.

SEQ ID NO: 663 is the determined cDNA sequence for clone 26873.

SEQ ID NO: 664 is the determined cDNA sequence for clone 26875.

SEQ ID NO: 665 is the determined cDNA sequence for clone 26876.

SEQ ID NO: 666 is the determined cDNA sequence for clone 26877.

SEQ ID NO: 667 is the determined cDNA sequence for clone 26878.

SEQ ID NO: 668 is the determined cDNA sequence for clone 26880.

SEQ ID NO: 669 is the determined cDNA sequence for clone 26882.

SEQ ID NO: 670 is the determined cDNA sequence for clone 26883.

SEQ ID NO: 671 is the determined cDNA sequence for clone 26884.

SEQ ID NO: 672 is the determined cDNA sequence for clone 26885.

SEQ ID NO: 673 is the determined cDNA sequence for clone 26886.

SEQ ID NO: 674 is the determined cDNA sequence for clone 26887.

SEQ ID NO: 675 is the determined cDNA sequence for clone 26888.

SEQ ID NO: 676 is the determined cDNA sequence for clone 26889.

SEQ ID NO: 677 is the determined cDNA sequence for clone 26890.

SEQ ID NO: 678 is the determined cDNA sequence for clone 26892.

SEQ ID NO: 679 is the determined cDNA sequence for clone 26894.

SEQ ID NO: 680 is the determined cDNA sequence for clone 26895.

SEQ ID NO: 681 is the determined cDNA sequence for clone 26897.

SEQ ID NO: 682 is the determined cDNA sequence for clone 26898.

SEQ ID NO: 683 is the determined cDNA sequence for clone 26899.

SEQ ID NO: 684 is the determined cDNA sequence for clone 26900.

SEQ ID NO: 685 is the determined cDNA sequence for clone 26901.

SEQ ID NO: 686 is the determined cDNA sequence for clone 26903.

SEQ ID NO: 687 is the determined cDNA sequence for clone 26905.

SEQ ID NO: 688 is the determined cDNA sequence for clone 26906.

SEQ ID NO: 689 is the determined cDNA sequence for clone 26708.

SEQ ID NO: 690 is the determined cDNA sequence for clone 26709.

SEQ ID NO: 691 is the determined cDNA sequence for clone 26710.

SEQ ID NO: 692 is the determined cDNA sequence for clone 26711.

SEQ ID NO: 693 is the determined cDNA sequence for clone 26712.

SEQ ID NO: 694 is the determined cDNA sequence for clone 26713.

SEQ ID NO: 695 is the determined cDNA sequence for clone 26714.

SEQ ID NO: 696 is the determined cDNA sequence for clone 26715.

SEQ ID NO: 697 is the determined cDNA sequence for clone 26716.

SEQ ID NO: 698 is the determined cDNA sequence for clone 26717.

SEQ ID NO: 699 is the determined cDNA sequence for clone 26718.

SEQ ID NO: 700 is the determined cDNA sequence for clone 26719.

SEQ ID NO: 701 is the determined cDNA sequence for clone 26720.

SEQ ID NO: 702 is the determined cDNA sequence for clone 26721.

SEQ ID NO: 703 is the determined cDNA sequence for clone 26722.

SEQ ID NO: 704 is the determined cDNA sequence for clone 26723.

SEQ ID NO: 705 is the determined cDNA sequence for clone 26724.

SEQ ID NO: 706 is the determined cDNA sequence for clone 26725.

SEQ ID NO: 707 is the determined cDNA sequence for clone 26726.

SEQ ID NO: 708 is the determined cDNA sequence for clone 26727.

5   SEQ ID NO: 709 is the determined cDNA sequence for clone 26728.

SEQ ID NO: 710 is the determined cDNA sequence for clone 26729.

SEQ ID NO: 711 is the determined cDNA sequence for clone 26730.

SEQ ID NO: 712 is the determined cDNA sequence for clone 26731.

SEQ ID NO: 713 is the determined cDNA sequence for clone 26732.

10   SEQ ID NO: 714 is the determined cDNA sequence for clone 26733.1.

SEQ ID NO: 715 is the determined cDNA sequence for clone 26733.2.

SEQ ID NO: 716 is the determined cDNA sequence for clone 26734.

SEQ ID NO: 717 is the determined cDNA sequence for clone 26735.

SEQ ID NO: 718 is the determined cDNA sequence for clone 26736.

15   SEQ ID NO: 719 is the determined cDNA sequence for clone 26737.

SEQ ID NO: 720 is the determined cDNA sequence for clone 26738.

SEQ ID NO: 721 is the determined cDNA sequence for clone 26739.

SEQ ID NO: 722 is the determined cDNA sequence for clone 26741.

SEQ ID NO: 723 is the determined cDNA sequence for clone 26742.

20   SEQ ID NO: 724 is the determined cDNA sequence for clone 26743.

SEQ ID NO: 725 is the determined cDNA sequence for clone 26744.

SEQ ID NO: 726 is the determined cDNA sequence for clone 26745.

SEQ ID NO: 727 is the determined cDNA sequence for clone 26746.

SEQ ID NO: 728 is the determined cDNA sequence for clone 26747.

25   SEQ ID NO: 729 is the determined cDNA sequence for clone 26748.

SEQ ID NO: 730 is the determined cDNA sequence for clone 26749.

SEQ ID NO: 731 is the determined cDNA sequence for clone 26750.

SEQ ID NO: 732 is the determined cDNA sequence for clone 26751.

SEQ ID NO: 733 is the determined cDNA sequence for clone 26752.

SEQ ID NO: 734 is the determined cDNA sequence for clone 26753.

SEQ ID NO: 735 is the determined cDNA sequence for clone 26754.

SEQ ID NO: 736 is the determined cDNA sequence for clone 26755.

SEQ ID NO: 737 is the determined cDNA sequence for clone 26756.

5   SEQ ID NO: 738 is the determined cDNA sequence for clone 26757.

SEQ ID NO: 739 is the determined cDNA sequence for clone 26758.

SEQ ID NO: 740 is the determined cDNA sequence for clone 26759.

SEQ ID NO: 741 is the determined cDNA sequence for clone 26760.

SEQ ID NO: 742 is the determined cDNA sequence for clone 26761.

10   SEQ ID NO: 743 is the determined cDNA sequence for clone 26762.

SEQ ID NO: 744 is the determined cDNA sequence for clone 26763.

SEQ ID NO: 745 is the determined cDNA sequence for clone 26764.

SEQ ID NO: 746 is the determined cDNA sequence for clone 26765.

SEQ ID NO: 747 is the determined cDNA sequence for clone 26766.

15   SEQ ID NO: 748 is the determined cDNA sequence for clone 26767.

SEQ ID NO: 749 is the determined cDNA sequence for clone 26768.

SEQ ID NO: 750 is the determined cDNA sequence for clone 26769.

SEQ ID NO: 751 is the determined cDNA sequence for clone 26770.

SEQ ID NO: 752 is the determined cDNA sequence for clone 26771.

20   SEQ ID NO: 753 is the determined cDNA sequence for clone 26772.

SEQ ID NO: 754 is the determined cDNA sequence for clone 26773.

SEQ ID NO: 755 is the determined cDNA sequence for clone 26774.

SEQ ID NO: 756 is the determined cDNA sequence for clone 26775.

SEQ ID NO: 757 is the determined cDNA sequence for clone 26776.

25   SEQ ID NO: 758 is the determined cDNA sequence for clone 26777.

SEQ ID NO: 759 is the determined cDNA sequence for clone 26778.

SEQ ID NO: 760 is the determined cDNA sequence for clone 26779.

SEQ ID NO: 761 is the determined cDNA sequence for clone 26781.

SEQ ID NO: 762 is the determined cDNA sequence for clone 26782.

SEQ ID NO: 763 is the determined cDNA sequence for clone 26783.

SEQ ID NO: 764 is the determined cDNA sequence for clone 26784.

SEQ ID NO: 765 is the determined cDNA sequence for clone 26785.

SEQ ID NO: 766 is the determined cDNA sequence for clone 26786.

5 SEQ ID NO: 767 is the determined cDNA sequence for clone 26787.

SEQ ID NO: 768 is the determined cDNA sequence for clone 26788.

SEQ ID NO: 769 is the determined cDNA sequence for clone 26790.

SEQ ID NO: 770 is the determined cDNA sequence for clone 26791.

SEQ ID NO: 771 is the determined cDNA sequence for clone 26792.

10 SEQ ID NO: 772 is the determined cDNA sequence for clone 26793.

SEQ ID NO: 773 is the determined cDNA sequence for clone 26794.

SEQ ID NO: 774 is the determined cDNA sequence for clone 26795.

SEQ ID NO: 775 is the determined cDNA sequence for clone 26796.

SEQ ID NO: 776 is the determined cDNA sequence for clone 26797.

15 SEQ ID NO: 777 is the determined cDNA sequence for clone 26798.

SEQ ID NO: 778 is the determined cDNA sequence for clone 26800.

SEQ ID NO: 779 is the determined cDNA sequence for clone 26801.

SEQ ID NO: 780 is the determined cDNA sequence for clone 26802.

SEQ ID NO: 781 is the determined cDNA sequence for clone 26803.

20 SEQ ID NO: 782 is the determined cDNA sequence for clone 26804.

SEQ ID NO: 783 is the amino acid sequence for L773P.

SEQ ID NO: 784 is the determined DNA sequence of the L773P expression construct.

SEQ ID NO: 785 is the determined DNA sequence of the L773PA

25 expression construct.

SEQ ID NO: 786 is a predicted amino acid sequence for L552S.

SEQ ID NO: 787 is a predicted amino acid sequence for L840P.

SEQ ID NO: 788 is the full-length cDNA sequence for L548S.

SEQ ID NO: 789 is the amino acid sequence encoded by SEQ ID NO: 788.

36

SEQ ID NO: 790 is an extended cDNA sequence for L552S.

SEQ ID NO: 791 is the predicted amino acid sequence encoded by the cDNA sequence of SEQ ID NO: 790.

SEQ ID NO: 792 is the determined cDNA sequence for an isoform of

5 L552S.

SEQ ID NO: 793 is the predicted amino acid sequence encoded by SEQ ID NO: 792.

SEQ ID NO: 794 is an extended cDNA sequence for L840P.

SEQ ID NO: 795 is the predicted amino acid sequence encoded by SEQ DI

10 NO: 794.

SEQ ID NO: 796 is an extended cDNA sequence for L801P.

SEQ ID NO: 797 is a first predicted amino acid sequence encoded by SEQ ID NO: 796.

SEQ ID NO: 798 is a second predicted amino acid sequence encoded by

15 SEQ ID NO: 796.

SEQ ID NO: 799 is a third predicted amino acid sequence encoded by SEQ ID NO: 796.

SEQ ID NO: 800 is the determined full-length sequence for L844P.

SEQ ID NO: 801 is the 5' consensus cDNA sequence for L551S.

20 SEQ ID NO: 802 is the 3' consensus cDNA sequence for L551S.

SEQ ID NO: 803 is the cDNA sequence for STY8.

SEQ ID NO: 804 is an extended cDNA sequence for L551S.

SEQ ID NO: 805 is the amino acid sequence for STY8.

SEQ ID NO: 806 is the extended amino acid sequence for L551S.

25 SEQ ID NO: 807 is the determined full-length cDNA sequence for L773P.

SEQ ID NO: 808 is the full-length cDNA sequence of L552S.

SEQ ID NO: 809 is the full-length amino acid sequence of L552S.

SEQ ID NO: 810 is the determined cDNA sequence of clone 50989.

SEQ ID NO: 811 is the determined cDNA sequence of clone 50990.

SEQ ID NO: 812 is the determined cDNA sequence of clone 50992.

SEQ ID NO: 813-824 are the determined cDNA sequences for clones isolated from lung tumor tissue.

SEQ ID NO: 825 is the determined cDNA sequence for the full-length L551S clone 54305.

SEQ ID NO: 826 is the determined cDNA sequence for the full-length L551S clone 54298.

SEQ ID NO: 827 is the full-length amino acid sequence for L551S.

Tables 1-6 contain the sequence identifiers for SEQ ID NO:878-1664.

Table 1A

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
828	R0126:A02	869	R0126:D12
829	R0126:A03	870	R0126:E01
830	R0126:A05	871	R0126:E02
831	R0126:A06	872	R0126:E03
832	R0126:A08	873	R0126:E04
833	R0126:A09	874	R0126:E05
834	R0126:A10	875	R0126:E06
835	R0126:A11	876	R0126:E07
836	R0126:A12	877	R0126:E08
837	R0126:B01	878	R0126:E09
838	R0126:B03	879	R0126:E10
839	R0126:B04	880	R0126:E11
840	R0126:B05	881	R0126:E12
841	R0126:B06	882	R0126:F01
842	R0126:B07	883	R0126:F02
843	R0126:B08	884	R0126:F03
844	R0126:B09	885	R0126:F04
845	R0126:B11	886	R0126:F05
846	R0126:B12	887	R0126:F06
847	R0126:C01	888	R0126:F07
848	R0126:C02	889	R0126:F08
849	R0126:C03	890	R0126:F10
850	R0126:C05	891	R0126:F11
851	R0126:C06	892	R0126:F12
852	R0126:C07	893	R0126:G01
853	R0126:C08	894	R0126:G02
854	R0126:C09	895	R0126:G03
855	R0126:C10	896	R0126:G04
856	R0126:C11	897	R0126:G05
857	R0126:C12	898	R0126:G06
858	R0126:D01	899	R0126:G07
859	R0126:D02	900	R0126:G09
860	R0126:D03	901	R0126:G10
861	R0126:D04	902	R0126:G11
862	R0126:D05	903	R0126:G12
863	R0126:D06	904	R0126:H01
864	R0126:D07	905	R0126:H02
865	R0126:D08	906	R0126:H03
866	R0126:D09	907	R0126:H04

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
867	R0126:D10	908	R0126:H05
868	R0126:D11	909	R0126:H06

Table 1B

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
910	R0126:H07	951	R0127:D10
911	R0126:H09	952	R0127:D11
912	R0126:H10	953	R0127:D12
913	R0126:H11	954	R0127:E02
914	R0127:A02	955	R0127:E03
915	R0127:A05	956	R0127:E04
916	R0127:A06	957	R0127:E05
917	R0127:A07	958	R0127:E06
918	R0127:A08	959	R0127:E07
919	R0127:A09	960	R0127:E08
920	R0127:A10	961	R0127:E09
921	R0127:A11	962	R0127:E10
922	R0127:A12	963	R0127:E11
923	R0127:B01	964	R0127:F01
924	R0127:B03	965	R0127:F02
925	R0127:B04	966	R0127:F03
926	R0127:B05	967	R0127:F04
927	R0127:B06	968	R0127:F05
928	R0127:B07	969	R0127:F06
929	R0127:B08	970	R0127:F07
930	R0127:B09	971	R0127:F08
931	R0127:B10	972	R0127:F10
932	R0127:B11	973	R0127:F11
933	R0127:B12	974	R0127:F12
934	R0127:C01	975	R0127:G01
935	R0127:C03	976	R0127:G02
936	R0127:C04	977	R0127:G03
937	R0127:C05	978	R0127:G04
938	R0127:C07	979	R0127:G05
939	R0127:C08	980	R0127:G06
940	R0127:C09	981	R0127:G07
941	R0127:C10	982	R0127:G08
942	R0127:C11	983	R0127:G09
943	R0127:D01	984	R0127:G10
944	R0127:D02	985	R0127:G11
945	R0127:D03	986	R0127:G12
946	R0127:D04	987	R0127:H01
947	R0127:D05	988	R0127:H02
948	R0127:D06	989	R0127:H03

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
949	R0127:D07	990	R0127:H04
950	R0127:D01	991	R0127:H05

Table 1C

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
992	R0127:H06	1034	R0128:D11
993	R0127:H07	1035	R0128:D12
994	R0127:H08	1036	R0128:E01
995	R1027:H09	1037	R0128:E02
996	R1027:H10	1038	R0128:E03
997	R1027:H11	1039	R0128:E04
998	R1028:A02	1040	R0128:E05
999	R1028:A05	1041	R0128:E06
1000	R1028:A06	1042	R0128:E07
1001	R1028:A07	1043	R0128:E08
1002	R1028:A08	1044	R0128:E09
1003	R1028:A09	1045	R0128:E10
1004	R1028:A10	1046	R0128:E12
1005	R1028:B01	1047	R0128:F01
1006	R1028:B02	1048	R0128:F02
1007	R1028:B03	1049	R0128:F03
1008	R1028:B04	1050	R0128:F04
1009	R1028:B05	1051	R0128:F06
1010	R1028:B08	1052	R0128:F07
1011	R1028:B09	1053	R0128:F08
1012	R1028:B10	1054	R0128:F09
1013	R1028:B11	1055	R0128:F10
1014	R1028:B12	1056	R0128:F12
1015	R1028:C01	1057	R0128:G01
1016	R1028:C03	1058	R0128:G02
1017	R1028:C04	1059	R0128:G03
1018	R1028:C05	1060	R0128:G04
1019	R1028:C06	1061	R0128:G05
1020	R1028:C07	1062	R0128:G06
1021	R1028:C08	1063	R0128:G07
1022	R1028:C10	1064	R0128:G09
1023	R1028:C11	1065	R0128:G10
1024	R1028:C12	1066	R0128:G11
1025	R1028:D01	1067	R0128:G12
1026	R1028:D02	1068	R0128:H01
1027	R1028:D04	1069	R0128:H02
1028	R1028:D05	1070	R0128:H03
1029	R1028:D06	1071	R0128:H04
1030	R1028:D07	1072	R0128:H05
1031	R1028:D08	1073	R0128:H06

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1032	R1028:D09	1074	R0128:H07
1033	R0128:D10	1075	R0128:H08

Table 1D

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1076	R0128:H09	1118	R0130:D12
1077	R0128:H10	1119	R0130:E01
1078	R0128:H11	1120	R0130:E02
1079	R0130:A02	1121	R0130:E03
1080	R0130:A05	1122	R0130:E04
1081	R0130:A06	1123	R0130:E05
1082	R0130:A08	1124	R0130:E06
1083	R0130:A09	1125	R0130:E07
1084	R0130:A10	1126	R0130:E08
1085	R0130:A11	1127	R0130:E09
1086	R0130:A12	1128	R0130:E10
1087	R0130:B01	1129	R0130:E11
1088	R0130:B02	1130	R0130:E12
1089	R0130:B03	1131	R0130:F02
1090	R0130:B04	1132	R0130:F03
1091	R0130:B05	1133	R0130:F05
1092	R0130:B06	1134	R0130:F06
1093	R0130:B08	1135	R0130:F07
1094	R0130:B09	1136	R0130:F08
1095	R0130:B10	1137	R0130:F09
1096	R0130:B11	1138	R0130:F10
1097	R0130:B12	1139	R0130:F11
1098	R0130:C02	1140	R0130:F12
1099	R0130:C03	1141	R0130:G01
1100	R0130:C04	1142	R0130:G02
1101	R0130:C05	1143	R0130:G03
1102	R0130:C06	1144	R0130:G04
1103	R0130:C07	1145	R0130:G05
1104	R0130:C08	1146	R0130:G06
1105	R0130:C09	1147	R0130:G07
1106	R0130:C10	1148	R0130:G08
1107	R0130:C11	1149	R0130:G09
1108	R0130:C12	1150	R0130:G10
1109	R0130:D02	1151	R0130:G11
1110	R0130:D03	1152	R0130:G12
1111	R0130:D04	1153	R0130:H01
1112	R0130:D05	1154	R0130:H02
1113	R0130:D06	1155	R0130:H04
1114	R0130:D07	1156	R0130:H05
1115	R0130:D09	1157	R0130:H06

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1116	R0130:D10	1158	R0130:H07
1117	R0130:D11	1159	R0130:H08

Table 1E

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1160	R0130:H09	1200	R0131:E01
1161	R0130:H10	1201	R0131:E02
1162	R0130:H11	1202	R0131:E03
1163	R0131:A02	1203	R0131:E04
1164	R0131:A05	1204	R0131:E06
1165	R0131:A06	1205	R0131:E07
1166	R0131:A07	1206	R0131:E08
1167	R0131:A08	1207	R0131:E10
1168	R0131:A09	1208	R0131:E11
1169	R0131:A11	1209	R0131:E12
1170	R0131:A12	1210	R0131:F02
1171	R0131:B02	1211	R0131:F04
1172	R0131:B03	1212	R0131:F05
1173	R0131:B04	1213	R0131:F06
1174	R0131:B05	1214	R0131:F07
1175	R0131:B07	1215	R0131:F08
1176	R0131:B08	1216	R0131:F09
1177	R0131:B09	1217	R0131:F10
1178	R0131:B10	1218	R0131:F11
1179	R0131:B11	1219	R0131:F12
1180	R0131:C01	1220	R0131:G01
1181	R0131:C02	1221	R0131:G02
1182	R0131:C03	1222	R0131:G03
1183	R0131:C04	1223	R0131:G04
1184	R0131:C06	1224	R0131:G05
1185	R0131:C07	1225	R0131:G06
1186	R0131:C08	1226	R0131:G07
1187	R0131:C10	1227	R0131:G08
1188	R0131:C11	1228	R0131:G09
1189	R0131:C12	1229	R0131:G10
1190	R0131:D02	1230	R0131:G11
1191	R0131:D03	1231	R0131:G12
1192	R0131:D04	1232	R0131:H01
1193	R0131:D05	1233	R0131:H02
1194	R0131:D06	1234	R0131:H05
1195	R0131:D07	1235	R0131:H06
1196	R0131:D09	1236	R0131:H07
1197	R0131:D10	1237	R0131:H08
1198	R0131:D11	1238	R0131:H09
1199	R0131:D12	1239	R0131:H11

Table 2:
Clone names for NSCLC-SQL1 and corresponding SEQ ID NOs

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1240	Contig 54		
1241	Contig 55		
1242	Contig 57		
1243	Contig 58		
1244	Contig 60		
1245	Contig 62		
1246	Contig 63		
1247	Contig 64		
1248	Contig 65		
1249	Contig 66		
1250	Contig 67		
1251	Contig 68		
1252	Contig 69		
1253	Contig 70		
1254	Contig 71		
1255	Contig 72		
1256	Contig 73		
1257	Contig 74		
1258	Contig 75		
1259	Contig 77		
1260	Contig 78		
1261	Contig 79		
1262	Contig 80		
1263	Contig 81		
1264	Contig 83		
1265	Contig 84		
1266	Contig 86		
1267	Contig 87		
1268	Contig 88		
1269	Contig 89		
1270	Contig 90		
1271	Contig 91		
1272	Contig 92		
1273	Contig 94		
1274	Contig 95		
1275	Contig 96		
1276	Contig 97		
1277	Contig 98		

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1278	Contig 99		
1279	Contig 100		

Table 3:
Clone names for NSCLC-SCLI and corresponding SEQ ID NOs

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1280	Contig 38	1320	Contig 82
1281	Contig 39		
1282	Contig 40		
1283	Contig 41		
1284	Contig 42		
1285	Contig 43		
1286	Contig 44		
1287	Contig 45		
1288	Contig 46		
1289	Contig 47		
1290	Contig 48		
1291	Contig 49		
1292	Contig 51		
1293	Contig 52		
1294	Contig 53		
1295	Contig 54		
1296	Contig 55		
1297	Contig 56		
1298	Contig 57		
1299	Contig 58		
1300	Contig 59		
1301	Contig 60		
1302	Contig 62		
1303	Contig 63		
1304	Contig 64		
1305	Contig 65		
1306	Contig 66		
1307	Contig 67		
1308	Contig 68		
1309	Contig 69		
1310	Contig 70		
1311	Contig 72		
1312	Contig 73		
1313	Contig 75		
1314	Contig 76		
1315	Contig 77		
1316	Contig 78		
1317	Contig 79		

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SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1318	Contig 80		
1319	Contig 81		

Table 4A:
Clone names for NSCLC-SCL3-SCL4 and corresponding SEQ ID NOs

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1321	Contig 94	1363	Contig 136
1322	Contig 95	1364	Contig 137
1323	Contig 96	1365	Contig 138
1324	Contig 97	1366	Contig 139
1325	Contig 98	1367	Contig 140
1326	Contig 99	1368	Contig 141
1327	Contig 100	1369	Contig 142
1328	Contig 101	1370	Contig 143
1329	Contig 102	1371	Contig 144
1330	Contig 103	1372	Contig 145
1331	Contig 104	1373	Contig 146
1332	Contig 105	1374	Contig 147
1333	Contig 106	1375	Contig 148
1334	Contig 107	1376	Contig 149
1335	Contig 108	1377	Contig 150
1336	Contig 109	1378	Contig 151
1337	Contig 110	1379	Contig 152
1338	Contig 111	1380	Contig 153
1339	Contig 112	1381	Contig 154
1340	Contig 113	1382	Contig 155
1341	Contig 114	1383	Contig 156
1342	Contig 115	1384	Contig 157
1343	Contig 116	1385	Contig 158
1344	Contig 117	1386	Contig 159
1345	Contig 118	1387	Contig 160
1346	Contig 119	1388	Contig 161
1347	Contig 120	1389	Contig 162
1348	Contig 121	1390	Contig 163
1349	Contig 122	1391	Contig 164
1350	Contig 123	1392	Contig 165
1351	Contig 124	1393	Contig 166
1352	Contig 125	1394	Contig 167
1353	Contig 126	1395	Contig 168
1354	Contig 127	1396	Contig 169
1355	Contig 128	1397	Contig 170
1356	Contig 129	1398	Contig 171
1357	Contig 130	1399	Contig 172
1358	Contig 131	1400	Contig 173
1359	Contig 132	1401	Contig 174

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1360	Contig 133	1402	Contig 175
1361	Contig 134	1403	Contig 176
1362	Contig 135		

Table 4B:
Clone names for NSCLC-SCL3-SCL4 and corresponding SEQ ID NOs

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1404	Contig 177		
1405	Contig 178		
1406	Contig 179		
1407	Contig 180		
1408	Contig 181		
1409	Contig 182		
1410	Contig 183		
1411	Contig 184		
1412	Contig 185		
1413	Contig 186		
1414	Contig 187		

Table 5:
Clone names for SCLC-SQL1 and corresponding SEQ ID NOs

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1415	Contig 17		
1416	Contig 18		
1417	Contig 20		
1418	Contig 23		
1419	Contig 24		
1420	Contig 25		
1421	Contig 26		
1422	Contig 27		
1423	Contig 28		
1424	Contig 29		
1425	Contig 30		
1426	Contig 31		
1427	Contig 20		
1428	Contig 21		
1429	Contig 22		
1430	Contig 23		
1431	Contig 24		
1432	Contig 25		
1433	Contig 26		
1434	Contig 27		
1435	Contig 28		
1436	Contig 29		
1437	Contig 30		
1438	Contig 31		
1439	Contig 32		
1440	Contig 33		
1441	Contig 34		
1442	Contig 35		
1443	Contig 36		
1444	Contig 37		
1445	Contig 38		

Table 6A:
Clone names for SCLC-SCL3-SCL4 and corresponding SEQ ID NOs

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1446	Contig 116	1488	Contig 160
1447	Contig 117	1489	Contig 161
1448	Contig 118	1490	Contig 162
1449	Contig 119	1491	Contig 163
1450	Contig 120	1492	Contig 164
1451	Contig 122	1493	Contig 165
1452	Contig 123	1494	Contig 166
1453	Contig 124	1495	Contig 167
1454	Contig 125	1496	Contig 168
1455	Contig 126	1497	Contig 169
1456	Contig 127	1498	Contig 170
1457	Contig 128	1499	Contig 171
1458	Contig 129	1500	Contig 172
1459	Contig 130	1501	Contig 173
1460	Contig 131	1502	Contig 174
1461	Contig 132	1503	Contig 175
1462	Contig 133	1504	Contig 176
1463	Contig 135	1505	Contig 177
1464	Contig 136	1506	Contig 178
1465	Contig 137	1507	Contig 179
1466	Contig 138	1508	Contig 181
1467	Contig 139 (L985P)	1509	Contig 182
1468	Contig 140	1510	Contig 183
1469	Contig 141	1511	Contig 184
1470	Contig 142	1512	Contig 185
1471	Contig 143	1513	Contig 186
1472	Contig 144	1514	Contig 187
1473	Contig 145	1515	Contig 189
1474	Contig 146	1516	Contig 190
1475	Contig 147	1517	Contig 191
1476	Contig 148	1518	Contig 192
1477	Contig 149	1519	Contig 193
1478	Contig 150	1520	Contig 194
1479	Contig 151	1521	Contig 195
1480	Contig 152	1522	Contig 196
1481	Contig 153	1523	Contig 197
1482	Contig 154	1524	Contig 198
1483	Contig 155	1525	Contig 199
1484	Contig 156	1526	Contig 200

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1485	Contig 157	1527	Contig 201
1486	Contig 158	1528	Contig 202
1487	Contig 159		

Table 6B:
Clone names for SCLC-SCL3-SCL4 and corresponding SEQ ID NOs

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1529	Contig 203		
1530	Contig 204		
1531	Contig 205		
1532	Contig 206		
1533	Contig 207		
1534	Contig 208		
1535	Contig 209		
1536	Contig 210		
1537	Contig 211		
1538	Contig 212		
1539	Contig 213		
1540	Contig 214		
1541	Contig 215		
1542	Contig 216		
1543	Contig 217		
1544	Contig 218		
1545	Contig 219		
1546	Contig 220		
1547	Contig 221		
1548	Contig 222		
1549	Contig 223		
1550	Contig 224		
1551	Contig 225		
1552	Contig 226		
1553	Contig 227		
1554	Contig 228		
1555	Contig 229		
1556	Contig 230		
1557	Contig 231		
1558	Contig 232		
1559	Contig 233		
1560	Contig 234		
1561	Contig 235		
1562	Contig 236		
1563	Contig 237		

Table 7.

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1564	R0124:E05	1609	R0129:D09
1565	R0124:E06	1610	R0129:D10
1566	R0124:E08	1611	R0129:D11
1567	R0124:F07	1612	R0129:E02
1568	R0124:F08	1613	R0129:E03
1569	R0124:F09	1614	R0129:E04
1570	R0124:G04	1615	R0129:E05
1571	R0129:A02	1616	R0129:E06
1572	R0129:A03	1617	R0129:E07
1573	R0129:A06	1618	R0129:E08
1574	R0129:A07	1619	R0129:E09
1575	R0129:A08	1620	R0129:E11
1576	R0129:A09	1621	R0129:E12
1577	R0129:A10	1622	R0129:F01
1578	R0129:A11	1623	R0129:F02
1579	R0129:A12	1624	R0129:F03
1580	R0129:B02	1625	R0129:F04
1581	R0129:B03	1626	R0129:F06
1582	R0129:B04	1627	R0129:F07
1583	R0129:B05	1628	R0129:F08
1584	R0129:B06	1629	R0129:F09
1585	R0129:B07	1630	R0129:F10
1586	R0129:B08	1631	R0129:F11
1587	R0129:B09	1632	R0129:F12
1588	R0129:B10	1633	R0129:G01
1589	R0129:B11	1634	R0129:G02
1590	R0129:B12	1635	R0129:G03
1591	R0129:C01	1636	R0129:G04
1592	R0129:C02	1637	R0129:G05
1593	R0129:C03	1638	R0129:G06
1594	R0129:C04	1639	R0129:G07
1595	R0129:C06	1640	R0129:G08
1596	R0129:C07	1641	R0129:G09
1597	R0129:C08	1642	R0129:G10
1598	R0129:C09	1643	R0129:G11
1599	R0129:C10	1644	R0129:G12
1600	R0129:C11	1645	R0129:H01
1601	R0129:C12	1646	R0129:H02
1602	R0129:D01	1647	R0129:H03
1603	R0129:D03	1648	R0129:H04

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SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1604	R0129:D04	1649	R0129:H05
1605	R0129:D05	1650	R0129:H08
1606	R0129:D06	1651	R0129:H09
1607	R0129:D07	1652	R0129:H10
1608	R0129:D08	1653	R0129:H11

Table 8.

SEQ ID NO	CLONE IDENTIFIER	SEQ ID NO	CLONE IDENTIFIER
1654	26484		
1655	26496		
1656	26517		
1657	26531		
1658	26022		
1659	26026		
1660	26810		
1661	26815		
1662	26869		
1663	26883		
1664	26902		

SEQ ID NO:1667 is the protein sequence of expressed recombinant

5   L7548S.

SEQ ID NO:1668 is the cDNA sequence of expressed recombinant L7548S.

SEQ ID NO:1669 is the extended cDNA sequence of clone #18971

(L801P).

SEQ ID NO:1670 is the amino acid sequence of open reading frame ORF4

10   encoded by SEQ ID NO:1669.

SEQ ID NO:1671 is the amino acid sequence of open reading frame ORF5

encoded by SEQ ID NO:1669.

SEQ ID NO:1672 is the amino acid sequence of open reading frame ORF6

encoded by SEQ ID NO:1669.

15   SEQ ID NO:1673 is the amino acid sequence of open reading frame ORF7

encoded by SEQ ID NO:1669.

SEQ ID NO:1674 is the amino acid sequence of open reading frame ORF8

encoded by SEQ ID NO:1669.

SEQ ID NO:1675 is the amino acid sequence of open reading frame ORF9

20   encoded by SEQ ID NO:1669.

SEQ ID NO:1676 is the extended cDNA for contig 139 (SEQ ID NO:1467),

also known as L985P.

SEQ ID NO:1677 is the L985P amino acid sequence encoded by SEQ ID NO: 1676.

SEQ ID NO: 1678 is the amino acid sequence of open reading frame ORF5X of SEQ ID NO:1669.

5   SEQ ID NO: 1679 is the amino acid sequence of an open reading frame for contig 139 (SEQ ID NO:1467).

DETAILED DESCRIPTION OF THE INVENTION

As noted above, the present invention is generally directed to compositions
10 and methods for using the compositions, for example in the therapy and diagnosis of cancer, such as lung cancer. Certain illustrative compositions described herein include lung tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (*e.g.*, T cells). A " lung tumor protein," as the term is used herein, refers generally to a protein that is
15 expressed in lung tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain lung tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with lung cancer.

20   Therefore, in accordance with the above, and as described further below, the present invention provides illustrative polynucleotide compositions having sequences set forth in SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178,
25 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319,

1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563 and 1669 illustrative

5   polypeptide compositions having amino acid sequences set forth in SEQ ID NO: 786, 787, 791, 793, 795, 797-799, 806, 809, 827, 1670-1675 and 1677-1679, antibody compositions capable of binding such polypeptides, and numerous additional embodiments employing such compositions, for example in the detection, diagnosis and/or therapy of human lung cancer.

10   **POLYNUCLEOTIDE COMPOSITIONS**

As used herein, the terms "DNA segment" and "polynucleotide" refer to a DNA molecule that has been isolated free of total genomic DNA of a particular species. Therefore, a DNA segment encoding a polypeptide refers to a DNA segment that contains one or more coding sequences yet is substantially isolated away from, or purified free from,

15   total genomic DNA of the species from which the DNA segment is obtained. Included within the terms "DNA segment" and "polynucleotide" are DNA segments and smaller fragments of such segments, and also recombinant vectors, including, for example, plasmids, cosmids, phagemids, phage, viruses, and the like.

As will be understood by those skilled in the art, the DNA segments of this

20   invention can include genomic sequences, extra-genomic and plasmid-encoded sequences and smaller engineered gene segments that express, or may be adapted to express, proteins, polypeptides, peptides and the like. Such segments may be naturally isolated, or modified synthetically by the hand of man.

"Isolated," as used herein, means that a polynucleotide is substantially away

25   from other coding sequences, and that the DNA segment does not contain large portions of unrelated coding DNA, such as large chromosomal fragments or other functional genes or polypeptide coding regions. Of course, this refers to the DNA segment as originally

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isolated, and does not exclude genes or coding regions later added to the segment by the hand of man.

As will be recognized by the skilled artisan, polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

Polynucleotides may comprise a native sequence (*i.e.,* an endogenous sequence that encodes a lung tumor protein or a portion thereof) or may comprise a variant, or a biological or antigenic functional equivalent of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions, as further described below, preferably such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as described herein. The term "variants" also encompasses homologous genes of xenogenic origin.

When comparing polynucleotide or polypeptide sequences, two sequences are said to be "identical" if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence, as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A "comparison window" as used herein, refers to a segment of at least about 20 contiguous positions, usually 30 to about 75, 40 to about 50, in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies several alignment

schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices for detecting distant relationships. In Dayhoff, M.O. (ed.) Atlas of Protein Sequence and Structure, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) Unified

5 Approach to Alignment and Phylogenes pp. 626-645 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* *5*:151-153; Myers, E.W. and Muller W. (1988) *CABIOS 4*:11-17; Robinson, E.D. (1971) *Comb. Theor 11*:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol. 4*:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of*

10 *Numerical Taxonomy*, Freeman Press, San Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad., Sci. USA 80*:726-730.

Alternatively, optimal alignment of sequences for comparison may be conducted by the local identity algorithm of Smith and Waterman (1981) *Add. APL. Math* 2:482, by the identity alignment algorithm of Needleman and Wunsch (1970) *J. Mol. Biol.*

15 48:443, by the search for similarity methods of Pearson and Lipman (1988) *Proc. Natl. Acad. Sci. USA* 85: 2444, by computerized implementations of these algorithms (GAP, BESTFIT, BLAST, FASTA, and TFASTA in the Wisconsin Genetics Software Package, Genetics Computer Group (GCG), 575 Science Dr., Madison, WI), or by inspection.

One preferred example of algorithms that are suitable for determining

20 percent sequence identity and sequence similarity are the BLAST and BLAST 2.0 algorithms, which are described in Altschul *et al.* (1977) *Nucl. Acids Res.* 25:3389-3402 and Altschul *et al.* (1990) *J. Mol. Biol.* 215:403-410, respectively. BLAST and BLAST 2.0 can be used, for example with the parameters described herein, to determine percent sequence identity for the polynucleotides and polypeptides of the invention. Software for

25 performing BLAST analyses is publicly available through the National Center for Biotechnology Information. In one illustrative example, cumulative scores can be calculated using, for nucleotide sequences, the parameters M (reward score for a pair of matching residues; always >0) and N (penalty score for mismatching residues; always <0). For amino acid sequences, a scoring matrix can be used to calculate the cumulative score.

Extension of the word hits in each direction are halted when: the cumulative alignment score falls off by the quantity X from its maximum achieved value; the cumulative score goes to zero or below, due to the accumulation of one or more negative-scoring residue alignments; or the end of either sequence is reached. The BLAST algorithm parameters W,

5   T and X determine the sensitivity and speed of the alignment. The BLASTN program (for nucleotide sequences) uses as defaults a wordlength (W) of 11, and expectation (E) of 10, and the BLOSUM62 scoring matrix (see Henikoff and Henikoff (1989) *Proc. Natl. Acad. Sci. USA* 89:10915) alignments, (B) of 50, expectation (E) of 10, M=5, N=-4 and a comparison of both strands.

10   Preferably, the "percentage of sequence identity" is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (*i.e.*, gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference sequences (which

15   does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (*i.e.*, the window size) and multiplying the results by

20   100 to yield the percentage of sequence identity.

                Therefore, the present invention encompasses polynucleotide and polypeptide sequences having substantial identity to the sequences disclosed herein, for example those comprising at least 50% sequence identity, preferably at least 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, 96%, 97%, 98%, or 99% or higher, sequence

25   identity compared to a polynucleotide or polypeptide sequence of this invention using the methods described herein, (*e.g.*, BLAST analysis using standard parameters, as described below). One skilled in this art will recognize that these values can be appropriately adjusted to determine corresponding identity of proteins encoded by two nucleotide

sequences by taking into account codon degeneracy, amino acid similarity, reading frame positioning and the like.

In additional embodiments, the present invention provides isolated polynucleotides and polypeptides comprising various lengths of contiguous stretches of sequence identical to or complementary to one or more of the sequences disclosed herein. For example, polynucleotides are provided by this invention that comprise at least about 15, 20, 30, 40, 50, 75, 100, 150, 200, 300, 400, 500 or 1000 or more contiguous nucleotides of one or more of the sequences disclosed herein as well as all intermediate lengths there between. It will be readily understood that "intermediate lengths", in this context, means any length between the quoted values, such as 16, 17, 18, 19, *etc.*; 21, 22, 23, *etc.*; 30, 31, 32, *etc.*; 50, 51, 52, 53, *etc.*; 100, 101, 102, 103, *etc.*; 150, 151, 152, 153, *etc.*; including all integers through 200-500; 500-1,000, and the like.

The polynucleotides of the present invention, or fragments thereof, regardless of the length of the coding sequence itself, may be combined with other DNA sequences, such as promoters, polyadenylation signals, additional restriction enzyme sites, multiple cloning sites, other coding segments, and the like, such that their overall length may vary considerably. It is therefore contemplated that a nucleic acid fragment of almost any length may be employed, with the total length preferably being limited by the ease of preparation and use in the intended recombinant DNA protocol. For example, illustrative DNA segments with total lengths of about 10,000, about 5000, about 3000, about 2,000, about 1,000, about 500, about 200, about 100, about 50 base pairs in length, and the like, (including all intermediate lengths) are contemplated to be useful in many implementations of this invention.

In other embodiments, the present invention is directed to polynucleotides that are capable of hybridizing under moderately stringent conditions to a polynucleotide sequence provided herein, or a fragment thereof, or a complementary sequence thereof. Hybridization techniques are well known in the art of molecular biology. For purposes of illustration, suitable moderately stringent conditions for testing the hybridization of a polynucleotide of this invention with other polynucleotides include prewashing in a

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solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

5   Moreover, it will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided

10   herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

15   **PROBES AND PRIMERS**

In other embodiments of the present invention, the polynucleotide sequences provided herein can be advantageously used as probes or primers for nucleic acid hybridization. As such, it is contemplated that nucleic acid segments that comprise a sequence region of at least about 15 nucleotide long contiguous sequence that has the same

20   sequence as, or is complementary to, a 15 nucleotide long contiguous sequence disclosed herein will find particular utility. Longer contiguous identical or complementary sequences, *e.g.*, those of about 20, 30, 40, 50, 100, 200, 500, 1000 (including all intermediate lengths) and even up to full length sequences will also be of use in certain embodiments.

25   The ability of such nucleic acid probes to specifically hybridize to a sequence of interest will enable them to be of use in detecting the presence of complementary sequences in a given sample. However, other uses are also envisioned,

such as the use of the sequence information for the preparation of mutant species primers, or primers for use in preparing other genetic constructions.

Polynucleotide molecules having sequence regions consisting of contiguous nucleotide stretches of 10-14, 15-20, 30, 50, or even of 100-200 nucleotides or so

5   (including intermediate lengths as well), identical or complementary to a polynucleotide sequence disclosed herein, are particularly contemplated as hybridization probes for use in, *e.g.*, Southern and Northern blotting. This would allow a gene product, or fragment thereof, to be analyzed, both in diverse cell types and also in various bacterial cells. The total size of fragment, as well as the size of the complementary stretch(es), will ultimately

10   depend on the intended use or application of the particular nucleic acid segment. Smaller fragments will generally find use in hybridization embodiments, wherein the length of the contiguous complementary region may be varied, such as between about 15 and about 100 nucleotides, but larger contiguous complementarity stretches may be used, according to the length complementary sequences one wishes to detect.

15   The use of a hybridization probe of about 15-25 nucleotides in length allows the formation of a duplex molecule that is both stable and selective. Molecules having contiguous complementary sequences over stretches greater than 15 bases in length are generally preferred, though, in order to increase stability and selectivity of the hybrid, and thereby improve the quality and degree of specific hybrid molecules obtained. One will

20   generally prefer to design nucleic acid molecules having gene-complementary stretches of 15 to 25 contiguous nucleotides, or even longer where desired.

Hybridization probes may be selected from any portion of any of the sequences disclosed herein. All that is required is to review the sequence set forth in SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67,

25   69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669

and 1676, or to any continuous portion of the sequence, from about 15-25 nucleotides in length up to and including the full length sequence, that one wishes to utilize as a probe or primer. The choice of probe and primer sequences may be governed by various factors. For example, one may wish to employ primers from towards the termini of the total

5   sequence.

Small polynucleotide segments or fragments may be readily prepared by, for example, directly synthesizing the fragment by chemical means, as is commonly practiced using an automated oligonucleotide synthesizer. Also, fragments may be obtained by application of nucleic acid reproduction technology, such as the PCR™ technology of U. S.

10   Patent 4,683,202 (incorporated herein by reference), by introducing selected sequences into recombinant vectors for recombinant production, and by other recombinant DNA techniques generally known to those of skill in the art of molecular biology.

The nucleotide sequences of the invention may be used for their ability to selectively form duplex molecules with complementary stretches of the entire gene or gene

15   fragments of interest. Depending on the application envisioned, one will typically desire to employ varying conditions of hybridization to achieve varying degrees of selectivity of probe towards target sequence. For applications requiring high selectivity, one will typically desire to employ relatively stringent conditions to form the hybrids, *e.g.*, one will select relatively low salt and/or high temperature conditions, such as provided by a salt

20   concentration of from about 0.02 M to about 0.15 M salt at temperatures of from about 50°C to about 70°C. Such selective conditions tolerate little, if any, mismatch between the probe and the template or target strand, and would be particularly suitable for isolating related sequences.

Of course, for some applications, for example, where one desires to prepare

25   mutants employing a mutant primer strand hybridized to an underlying template, less stringent (reduced stringency) hybridization conditions will typically be needed in order to allow formation of the heteroduplex. In these circumstances, one may desire to employ salt conditions such as those of from about 0.15 M to about 0.9 M salt, at temperatures ranging from about 20°C to about 55°C. Cross-hybridizing species can thereby be readily

identified as positively hybridizing signals with respect to control hybridizations. In any case, it is generally appreciated that conditions can be rendered more stringent by the addition of increasing amounts of formamide, which serves to destabilize the hybrid duplex in the same manner as increased temperature. Thus, hybridization conditions can be

5 readily manipulated, and thus will generally be a method of choice depending on the desired results.

POLYNUCLEOTIDE IDENTIFICATION AND CHARACTERIZATION

Polynucleotides may be identified, prepared and/or manipulated using any of a variety of well established techniques. For example, a polynucleotide may be

10 identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.,* expression that is at least two fold greater in a tumor than in normal tissue, as determined using a representative assay provided herein). Such screens may be performed, for example, using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena *et al., Proc. Natl.*

15 *Acad. Sci. USA* 93:10614-10619, 1996 and Heller *et al., Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Alternatively, polynucleotides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as lung tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided

20 herein, and may be purchased or synthesized.

An amplified portion of a polynucleotide of the present invention may be used to isolate a full length gene from a suitable library (*e.g.,* a lung tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification.

25 Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

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For hybridization techniques, a partial sequence may be labeled (*e.g.*, by nick-translation or end-labeling with ^{32}P) using well known techniques. A bacterial or bacteriophage library is then generally screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (*see*

5   Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and

10   partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences can then assembled into a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

15   Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in

20   length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

One such amplification technique is inverse PCR (*see* Triglia *et al.*, *Nucl. Acids Res.* *16*:8186, 1988), which uses restriction enzymes to generate a fragment in the

25   known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the

same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an

5   internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom *et al.*, *PCR Methods Applic. 1*:111-19, 1991) and walking PCR (Parker *et al.*, *Nucl. Acids. Res. 19*:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

10   In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may generally be performed using well known programs (*e.g.*, NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence. Full length DNA sequences may also be

15   obtained by analysis of genomic fragments.

POLYNUCLEOTIDE EXPRESSION IN HOST CELLS

In other embodiments of the invention, polynucleotide sequences or fragments thereof which encode polypeptides of the invention, or fusion proteins or functional equivalents thereof, may be used in recombinant DNA molecules to direct

20   expression of a polypeptide in appropriate host cells. Due to the inherent degeneracy of the genetic code, other DNA sequences that encode substantially the same or a functionally equivalent amino acid sequence may be produced and these sequences may be used to clone and express a given polypeptide.

As will be understood by those of skill in the art, it may be advantageous in

25   some instances to produce polypeptide-encoding nucleotide sequences possessing non-naturally occurring codons. For example, codons preferred by a particular prokaryotic or eukaryotic host can be selected to increase the rate of protein expression or to produce a

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recombinant RNA transcript having desirable properties, such as a half-life which is longer than that of a transcript generated from the naturally occurring sequence.

Moreover, the polynucleotide sequences of the present invention can be engineered using methods generally known in the art in order to alter polypeptide encoding
5   sequences for a variety of reasons, including but not limited to, alterations which modify the cloning, processing, and/or expression of the gene product. For example, DNA shuffling by random fragmentation and PCR reassembly of gene fragments and synthetic oligonucleotides may be used to engineer the nucleotide sequences. In addition, site-directed mutagenesis may be used to insert new restriction sites, alter glycosylation
10   patterns, change codon preference, produce splice variants, or introduce mutations, and so forth.

In another embodiment of the invention, natural, modified, or recombinant nucleic acid sequences may be ligated to a heterologous sequence to encode a fusion protein. For example, to screen peptide libraries for inhibitors of polypeptide activity, it
15   may be useful to encode a chimeric protein that can be recognized by a commercially available antibody. A fusion protein may also be engineered to contain a cleavage site located between the polypeptide-encoding sequence and the heterologous protein sequence, so that the polypeptide may be cleaved and purified away from the heterologous moiety.

Sequences encoding a desired polypeptide may be synthesized, in whole or
20   in part, using chemical methods well known in the art (see Caruthers, M. H. *et al.* (1980) *Nucl. Acids Res. Symp. Ser.* 215-223, Horn, T. *et al.* (1980) *Nucl. Acids Res. Symp. Ser.* 225-232). Alternatively, the protein itself may be produced using chemical methods to synthesize the amino acid sequence of a polypeptide, or a portion thereof. For example, peptide synthesis can be performed using various solid-phase techniques (Roberge, J. Y. *et*
25   *al.* (1995) *Science 269*:202-204) and automated synthesis may be achieved, for example, using the ABI 431A Peptide Synthesizer (Perkin Elmer, Palo Alto, CA).

A newly synthesized peptide may be substantially purified by preparative high performance liquid chromatography (*e.g.*, Creighton, T. (1983) Proteins, Structures and Molecular Principles, WH Freeman and Co., New York, N.Y.) or other comparable

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techniques available in the art. The composition of the synthetic peptides may be confirmed by amino acid analysis or sequencing (*e.g.*, the Edman degradation procedure). Additionally, the amino acid sequence of a polypeptide, or any part thereof, may be altered during direct synthesis and/or combined using chemical methods with sequences from

5 other proteins, or any part thereof, to produce a variant polypeptide.

In order to express a desired polypeptide, the nucleotide sequences encoding the polypeptide, or functional equivalents, may be inserted into appropriate expression vector, *i.e.*, a vector which contains the necessary elements for the transcription and translation of the inserted coding sequence. Methods which are well known to those

10 skilled in the art may be used to construct expression vectors containing sequences encoding a polypeptide of interest and appropriate transcriptional and translational control elements. These methods include in vitro recombinant DNA techniques, synthetic techniques, and in vivo genetic recombination. Such techniques are described in Sambrook, J. *et al.* (1989) Molecular Cloning, A Laboratory Manual, Cold Spring Harbor Press,

15 Plainview, N.Y., and Ausubel, F. M. *et al.* (1989) Current Protocols in Molecular Biology, John Wiley & Sons, New York. N.Y.

A variety of expression vector/host systems may be utilized to contain and express polynucleotide sequences. These include, but are not limited to, microorganisms such as bacteria transformed with recombinant bacteriophage, plasmid, or cosmid DNA

20 expression vectors; yeast transformed with yeast expression vectors; insect cell systems infected with virus expression vectors (*e.g.*, baculovirus); plant cell systems transformed with virus expression vectors (*e.g.*, cauliflower mosaic virus, CaMV; tobacco mosaic virus, TMV) or with bacterial expression vectors (*e.g.*, Ti or pBR322 plasmids); or animal cell systems.

25 The "control elements" or "regulatory sequences" present in an expression vector are those non-translated regions of the vector--enhancers, promoters, 5' and 3' untranslated regions--which interact with host cellular proteins to carry out transcription and translation. Such elements may vary in their strength and specificity. Depending on the vector system and host utilized, any number of suitable transcription and translation

elements, including constitutive and inducible promoters, may be used. For example, when cloning in bacterial systems, inducible promoters such as the hybrid lacZ promoter of the PBLUESCRIPT phagemid (Stratagene, La Jolla, Calif.) or PSPORT1 plasmid (Gibco BRL, Gaithersburg, MD) and the like may be used. In mammalian cell systems, promoters from

5 mammalian genes or from mammalian viruses are generally preferred. If it is necessary to generate a cell line that contains multiple copies of the sequence encoding a polypeptide, vectors based on SV40 or EBV may be advantageously used with an appropriate selectable marker.

In bacterial systems, a number of expression vectors may be selected

10 depending upon the use intended for the expressed polypeptide. For example, when large quantities are needed, for example for the induction of antibodies, vectors which direct high level expression of fusion proteins that are readily purified may be used. Such vectors include, but are not limited to, the multifunctional *E. coli* cloning and expression vectors such as BLUESCRIPT (Stratagene), in which the sequence encoding the polypeptide of

15 interest may be ligated into the vector in frame with sequences for the amino-terminal Met and the subsequent 7 residues of .beta.-galactosidase so that a hybrid protein is produced; pIN vectors (Van Heeke, G. and S. M. Schuster (1989) *J. Biol. Chem. 264*:5503-5509); and the like. pGEX Vectors (Promega, Madison, Wis.) may also be used to express foreign polypeptides as fusion proteins with glutathione S-transferase (GST). In general, such

20 fusion proteins are soluble and can easily be purified from lysed cells by adsorption to glutathione-agarose beads followed by elution in the presence of free glutathione. Proteins made in such systems may be designed to include heparin, thrombin, or factor XA protease cleavage sites so that the cloned polypeptide of interest can be released from the GST moiety at will.

25 In the yeast, Saccharomyces cerevisiae, a number of vectors containing constitutive or inducible promoters such as alpha factor, alcohol oxidase, and PGH may be used. For reviews, see Ausubel *et al.* (supra) and Grant *et al.* (1987) *Methods Enzymol.* 153:516-544.

In cases where plant expression vectors are used, the expression of sequences encoding polypeptides may be driven by any of a number of promoters. For example, viral promoters such as the 35S and 19S promoters of CaMV may be used alone or in combination with the omega leader sequence from TMV (Takamatsu, N. (1987) *EMBO J. 6*:307-311. Alternatively, plant promoters such as the small subunit of RUBISCO or heat shock promoters may be used (Coruzzi, G. *et al.* (1984) *EMBO J. 3*:1671-1680; Broglie, R. *et al.* (1984) *Science 224*:838-843; and Winter, J. *et al.* (1991) *Results Probl. Cell Differ. 17*:85-105). These constructs can be introduced into plant cells by direct DNA transformation or pathogen-mediated transfection. Such techniques are described in a number of generally available reviews (see, for example, Hobbs, S. or Murry, L. E. in McGraw Hill Yearbook of Science and Technology (1992) McGraw Hill, New York, N.Y.; pp. 191-196).

An insect system may also be used to express a polypeptide of interest. For example, in one such system, Autographa californica nuclear polyhedrosis virus (AcNPV) is used as a vector to express foreign genes in Spodoptera frugiperda cells or in Trichoplusia larvae. The sequences encoding the polypeptide may be cloned into a non-essential region of the virus, such as the polyhedrin gene, and placed under control of the polyhedrin promoter. Successful insertion of the polypeptide-encoding sequence will render the polyhedrin gene inactive and produce recombinant virus lacking coat protein. The recombinant viruses may then be used to infect, for example, S. frugiperda cells or Trichoplusia larvae in which the polypeptide of interest may be expressed (Engelhard, E. K. *et al.* (1994) *Proc. Natl. Acad. Sci. 91*:3224-3227).

In mammalian host cells, a number of viral-based expression systems are generally available. For example, in cases where an adenovirus is used as an expression vector, sequences encoding a polypeptide of interest may be ligated into an adenovirus transcription/translation complex consisting of the late promoter and tripartite leader sequence. Insertion in a non-essential E1 or E3 region of the viral genome may be used to obtain a viable virus which is capable of expressing the polypeptide in infected host cells (Logan, J. and Shenk, T. (1984) *Proc. Natl. Acad. Sci. 81*:3655-3659). In addition,

transcription enhancers, such as the Rous sarcoma virus (RSV) enhancer, may be used to increase expression in mammalian host cells.

Specific initiation signals may also be used to achieve more efficient translation of sequences encoding a polypeptide of interest. Such signals include the ATG

5   initiation codon and adjacent sequences. In cases where sequences encoding the polypeptide, its initiation codon, and upstream sequences are inserted into the appropriate expression vector, no additional transcriptional or translational control signals may be needed. However, in cases where only coding sequence, or a portion thereof, is inserted, exogenous translational control signals including the ATG initiation codon should be

10   provided. Furthermore, the initiation codon should be in the correct reading frame to ensure translation of the entire insert. Exogenous translational elements and initiation codons may be of various origins, both natural and synthetic. The efficiency of expression may be enhanced by the inclusion of enhancers which are appropriate for the particular cell system which is used, such as those described in the literature (Scharf, D. *et al.* (1994) *Results*

15   *Probl. Cell Differ. 20*:125-162).

In addition, a host cell strain may be chosen for its ability to modulate the expression of the inserted sequences or to process the expressed protein in the desired fashion. Such modifications of the polypeptide include, but are not limited to, acetylation, carboxylation. glycosylation, phosphorylation, lipidation, and acylation. Post-translational

20   processing which cleaves a "prepro" form of the protein may also be used to facilitate correct insertion, folding and/or function. Different host cells such as CHO, HeLa, MDCK, HEK293, and WI38, which have specific cellular machinery and characteristic mechanisms for such post-translational activities, may be chosen to ensure the correct modification and processing of the foreign protein.

25   For long-term, high-yield production of recombinant proteins, stable expression is generally preferred. For example, cell lines which stably express a polynucleotide of interest may be transformed using expression vectors which may contain viral origins of replication and/or endogenous expression elements and a selectable marker gene on the same or on a separate vector. Following the introduction of the vector, cells

may be allowed to grow for 1-2 days in an enriched media before they are switched to selective media. The purpose of the selectable marker is to confer resistance to selection, and its presence allows growth and recovery of cells which successfully express the introduced sequences. Resistant clones of stably transformed cells may be proliferated

5   using tissue culture techniques appropriate to the cell type.

Any number of selection systems may be used to recover transformed cell lines. These include, but are not limited to, the herpes simplex virus thymidine kinase (Wigler, M. *et al.* (1977) *Cell 11*:223-32) and adenine phosphoribosyltransferase (Lowy, I. *et al.* (1990) *Cell 22*:817-23) genes which can be employed in tk.sup.- or aprt.sup.- cells,

10   respectively. Also, antimetabolite, antibiotic or herbicide resistance can be used as the basis for selection; for example, dhfr which confers resistance to methotrexate (Wigler, M. *et al.* (1980) *Proc. Natl. Acad. Sci. 77*:3567-70); npt, which confers resistance to the aminoglycosides, neomycin and G-418 (Colbere-Garapin, F. et al (1981) *J. Mol. Biol. 150*:1-14); and als or pat, which confer resistance to chlorsulfuron and phosphinotricin

15   acetyltransferase, respectively (Murry, *supra*). Additional selectable genes have been described, for example, trpB, which allows cells to utilize indole in place of tryptophan, or hisD, which allows cells to utilize histinol in place of histidine (Hartman, S. C. and R. C. Mulligan (1988) *Proc. Natl. Acad. Sci. 85*:8047-51). Recently, the use of visible markers has gained popularity with such markers as anthocyanins, beta-glucuronidase and its

20   substrate GUS, and luciferase and its substrate luciferin, being widely used not only to identify transformants, but also to quantify the amount of transient or stable protein expression attributable to a specific vector system (Rhodes, C. A. *et al.* (1995) *Methods Mol. Biol. 55*:121-131).

Although the presence/absence of marker gene expression suggests that the

25   gene of interest is also present, its presence and expression may need to be confirmed. For example, if the sequence encoding a polypeptide is inserted within a marker gene sequence, recombinant cells containing sequences can be identified by the absence of marker gene function. Alternatively, a marker gene can be placed in tandem with a polypeptide-encoding sequence under the control of a single promoter. Expression of the marker gene

in response to induction or selection usually indicates expression of the tandem gene as well.

Alternatively, host cells which contain and express a desired polynucleotide sequence may be identified by a variety of procedures known to those of skill in the art. These procedures include, but are not limited to, DNA-DNA or DNA-RNA hybridizations and protein bioassay or immunoassay techniques which include membrane, solution, or chip based technologies for the detection and/or quantification of nucleic acid or protein.

A variety of protocols for detecting and measuring the expression of polynucleotide-encoded products, using either polyclonal or monoclonal antibodies specific for the product are known in the art. Examples include enzyme-linked immunosorbent assay (ELISA), radioimmunoassay (RIA), and fluorescence activated cell sorting (FACS). A two-site, monoclonal-based immunoassay utilizing monoclonal antibodies reactive to two non-interfering epitopes on a given polypeptide may be preferred for some applications, but a competitive binding assay may also be employed. These and other assays are described, among other places, in Hampton, R. *et al.* (1990; Serological Methods, a Laboratory Manual, APS Press, St Paul. Minn.) and Maddox, D. E. *et al.* (1983; *J. Exp. Med. 158*:1211-1216).

A wide variety of labels and conjugation techniques are known by those skilled in the art and may be used in various nucleic acid and amino acid assays. Means for producing labeled hybridization or PCR probes for detecting sequences related to polynucleotides include oligolabeling, nick translation, end-labeling or PCR amplification using a labeled nucleotide. Alternatively, the sequences, or any portions thereof may be cloned into a vector for the production of an mRNA probe. Such vectors are known in the art, are commercially available, and may be used to synthesize RNA probes in vitro by addition of an appropriate RNA polymerase such as T7, T3, or SP6 and labeled nucleotides. These procedures may be conducted using a variety of commercially available kits. Suitable reporter molecules or labels, which may be used include radionuclides, enzymes, fluorescent, chemiluminescent, or chromogenic agents as well as substrates, cofactors, inhibitors, magnetic particles, and the like.

Host cells transformed with a polynucleotide sequence of interest may be cultured under conditions suitable for the expression and recovery of the protein from cell culture. The protein produced by a recombinant cell may be secreted or contained intracellularly depending on the sequence and/or the vector used. As will be understood by those of skill in the art, expression vectors containing polynucleotides of the invention may be designed to contain signal sequences which direct secretion of the encoded polypeptide through a prokaryotic or eukaryotic cell membrane. Other recombinant constructions may be used to join sequences encoding a polypeptide of interest to nucleotide sequence encoding a polypeptide domain which will facilitate purification of soluble proteins. Such purification facilitating domains include, but are not limited to, metal chelating peptides such as histidine-tryptophan modules that allow purification on immobilized metals, protein A domains that allow purification on immobilized immunoglobulin, and the domain utilized in the FLAGS extension/affinity purification system (Immunex Corp., Seattle, Wash.). The inclusion of cleavable linker sequences such as those specific for Factor XA or enterokinase (Invitrogen. San Diego, Calif.) between the purification domain and the encoded polypeptide may be used to facilitate purification. One such expression vector provides for expression of a fusion protein containing a polypeptide of interest and a nucleic acid encoding 6 histidine residues preceding a thioredoxin or an enterokinase cleavage site. The histidine residues facilitate purification on IMIAC (immobilized metal ion affinity chromatography) as described in Porath, J. *et al.* (1992, *Prot. Exp. Purif. 3*:263-281) while the enterokinase cleavage site provides a means for purifying the desired polypeptide from the fusion protein. A discussion of vectors which contain fusion proteins is provided in Kroll, D. J. *et al.* (1993; *DNA Cell Biol. 12*:441-453).

In addition to recombinant production methods, polypeptides of the invention, and fragments thereof, may be produced by direct peptide synthesis using solid-phase techniques (Merrifield J. (1963) *J. Am. Chem. Soc. 85*:2149-2154). Protein synthesis may be performed using manual techniques or by automation. Automated synthesis may be achieved, for example, using Applied Biosystems 431A Peptide Synthesizer (Perkin

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Elmer). Alternatively, various fragments may be chemically synthesized separately and combined using chemical methods to produce the full length molecule.

SITE-SPECIFIC MUTAGENESIS

Site-specific mutagenesis is a technique useful in the preparation of

5   individual peptides, or biologically functional equivalent polypeptides, through specific mutagenesis of the underlying polynucleotides that encode them. The technique, well-known to those of skill in the art, further provides a ready ability to prepare and test sequence variants, for example, incorporating one or more of the foregoing considerations, by introducing one or more nucleotide sequence changes into the DNA. Site-specific

10   mutagenesis allows the production of mutants through the use of specific oligonucleotide sequences which encode the DNA sequence of the desired mutation, as well as a sufficient number of adjacent nucleotides, to provide a primer sequence of sufficient size and sequence complexity to form a stable duplex on both sides of the deletion junction being traversed. Mutations may be employed in a selected polynucleotide sequence to improve,

15   alter, decrease, modify, or otherwise change the properties of the polynucleotide itself, and/or alter the properties, activity, composition, stability, or primary sequence of the encoded polypeptide.

In certain embodiments of the present invention, the inventors contemplate the mutagenesis of the disclosed polynucleotide sequences to alter one or more properties

20   of the encoded polypeptide, such as the antigenicity of a polypeptide vaccine. The techniques of site-specific mutagenesis are well-known in the art, and are widely used to create variants of both polypeptides and polynucleotides. For example, site-specific mutagenesis is often used to alter a specific portion of a DNA molecule. In such embodiments, a primer comprising typically about 14 to about 25 nucleotides or so in

25   length is employed, with about 5 to about 10 residues on both sides of the junction of the sequence being altered.

As will be appreciated by those of skill in the art, site-specific mutagenesis techniques have often employed a phage vector that exists in both a single stranded and

double stranded form. Typical vectors useful in site-directed mutagenesis include vectors such as the M13 phage. These phage are readily commercially-available and their use is generally well-known to those skilled in the art. Double-stranded plasmids are also routinely employed in site directed mutagenesis that eliminates the step of transferring the

5 gene of interest from a plasmid to a phage.

In general, site-directed mutagenesis in accordance herewith is performed by first obtaining a single-stranded vector or melting apart of two strands of a double-stranded vector that includes within its sequence a DNA sequence that encodes the desired peptide. An oligonucleotide primer bearing the desired mutated sequence is

10 prepared, generally synthetically. This primer is then annealed with the single-stranded vector, and subjected to DNA polymerizing enzymes such as *E. coli* polymerase I Klenow fragment, in order to complete the synthesis of the mutation-bearing strand. Thus, a heteroduplex is formed wherein one strand encodes the original non-mutated sequence and the second strand bears the desired mutation. This heteroduplex vector is then used to

15 transform appropriate cells, such as *E. coli* cells, and clones are selected which include recombinant vectors bearing the mutated sequence arrangement.

The preparation of sequence variants of the selected peptide-encoding DNA segments using site-directed mutagenesis provides a means of producing potentially useful species and is not meant to be limiting as there are other ways in which sequence variants

20 of peptides and the DNA sequences encoding them may be obtained. For example, recombinant vectors encoding the desired peptide sequence may be treated with mutagenic agents, such as hydroxylamine, to obtain sequence variants. Specific details regarding these methods and protocols are found in the teachings of Maloy *et al.*, 1994; Segal, 1976; Prokop and Bajpai, 1991; Kuby, 1994; and Maniatis *et al.*, 1982, each incorporated herein

25 by reference, for that purpose.

As used herein, the term "oligonucleotide directed mutagenesis procedure" refers to template-dependent processes and vector-mediated propagation which result in an increase in the concentration of a specific nucleic acid molecule relative to its initial concentration, or in an increase in the concentration of a detectable signal, such as

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amplification. As used herein, the term "oligonucleotide directed mutagenesis procedure" is intended to refer to a process that involves the template-dependent extension of a primer molecule. The term template dependent process refers to nucleic acid synthesis of an RNA or a DNA molecule wherein the sequence of the newly synthesized strand of nucleic acid is

5   dictated by the well-known rules of complementary base pairing (see, for example, Watson, 1987). Typically, vector mediated methodologies involve the introduction of the nucleic acid fragment into a DNA or RNA vector, the clonal amplification of the vector, and the recovery of the amplified nucleic acid fragment. Examples of such methodologies are provided by U. S. Patent No. 4,237,224, specifically incorporated herein by reference in

10   its entirety.

POLYNUCLEOTIDE AMPLIFICATION TECHNIQUES

A number of template dependent processes are available to amplify the target sequences of interest present in a sample. One of the best known amplification methods is the polymerase chain reaction (PCR™) which is described in detail in U.S.

15   Patent Nos. 4,683,195, 4,683,202 and 4,800,159, each of which is incorporated herein by reference in its entirety. Briefly, in PCR™, two primer sequences are prepared which are complementary to regions on opposite complementary strands of the target sequence. An excess of deoxynucleoside triphosphates is added to a reaction mixture along with a DNA polymerase (e.g., Taq polymerase). If the target sequence is present in a sample, the

20   primers will bind to the target and the polymerase will cause the primers to be extended along the target sequence by adding on nucleotides. By raising and lowering the temperature of the reaction mixture, the extended primers will dissociate from the target to form reaction products, excess primers will bind to the target and to the reaction product and the process is repeated. Preferably reverse transcription and PCR™ amplification

25   procedure may be performed in order to quantify the amount of mRNA amplified. Polymerase chain reaction methodologies are well known in the art.

Another method for amplification is the ligase chain reaction (referred to as LCR), disclosed in Eur. Pat. Appl. Publ. No. 320,308 (specifically incorporated herein by

reference in its entirety). In LCR, two complementary probe pairs are prepared, and in the presence of the target sequence, each pair will bind to opposite complementary strands of the target such that they abut. In the presence of a ligase, the two probe pairs will link to form a single unit. By temperature cycling, as in PCR™, bound ligated units dissociate

5   from the target and then serve as "target sequences" for ligation of excess probe pairs. U.S. Patent No. 4,883,750, incorporated herein by reference in its entirety, describes an alternative method of amplification similar to LCR for binding probe pairs to a target sequence.

           Qbeta Replicase, described in PCT Intl. Pat. Appl. Publ. No.

10   PCT/US87/00880, incorporated herein by reference in its entirety, may also be used as still another amplification method in the present invention. In this method, a replicative sequence of RNA that has a region complementary to that of a target is added to a sample in the presence of an RNA polymerase. The polymerase will copy the replicative sequence that can then be detected.

15   An isothermal amplification method, in which restriction endonucleases and ligases are used to achieve the amplification of target molecules that contain nucleotide 5'-[α-thio]triphosphates in one strand of a restriction site (Walker *et al.*, 1992, incorporated herein by reference in its entirety), may also be useful in the amplification of nucleic acids in the present invention.

20   Strand Displacement Amplification (SDA) is another method of carrying out isothermal amplification of nucleic acids which involves multiple rounds of strand displacement and synthesis, *i.e.* nick translation. A similar method, called Repair Chain Reaction (RCR) is another method of amplification which may be useful in the present invention and is involves annealing several probes throughout a region targeted for

25   amplification, followed by a repair reaction in which only two of the four bases are present. The other two bases can be added as biotinylated derivatives for easy detection. A similar approach is used in SDA.

           Sequences can also be detected using a cyclic probe reaction (CPR). In CPR, a probe having a 3' and 5' sequences of non-target DNA and an internal or "middle"

sequence of the target protein specific RNA is hybridized to DNA which is present in a sample. Upon hybridization, the reaction is treated with RNaseH, and the products of the probe are identified as distinctive products by generating a signal that is released after digestion. The original template is annealed to another cycling probe and the reaction is

5   repeated. Thus, CPR involves amplifying a signal generated by hybridization of a probe to a target gene specific expressed nucleic acid.

Still other amplification methods described in Great Britain Pat. Appl. No. 2 202 328, and in PCT Intl. Pat. Appl. Publ. No. PCT/US89/01025, each of which is incorporated herein by reference in its entirety, may be used in accordance with the present

10   invention. In the former application, "modified" primers are used in a PCR-like, template and enzyme dependent synthesis. The primers may be modified by labeling with a capture moiety (e.g., biotin) and/or a detector moiety (e.g., enzyme). In the latter application, an excess of labeled probes is added to a sample. In the presence of the target sequence, the probe binds and is cleaved catalytically. After cleavage, the target sequence is released

15   intact to be bound by excess probe. Cleavage of the labeled probe signals the presence of the target sequence.

Other nucleic acid amplification procedures include transcription-based amplification systems (TAS) (Kwoh et al., 1989; PCT Intl. Pat. Appl. Publ. No. WO 88/10315, incorporated herein by reference in its entirety), including nucleic acid sequence

20   based amplification (NASBA) and 3SR. In NASBA, the nucleic acids can be prepared for amplification by standard phenol/chloroform extraction, heat denaturation of a sample, treatment with lysis buffer and minispin columns for isolation of DNA and RNA or guanidinium chloride extraction of RNA. These amplification techniques involve annealing a primer that has sequences specific to the target sequence. Following

25   polymerization, DNA/RNA hybrids are digested with RNase H while double stranded DNA molecules are heat-denatured again. In either case the single stranded DNA is made fully double stranded by addition of second target-specific primer, followed by polymerization. The double stranded DNA molecules are then multiply transcribed by a polymerase such as T7 or SP6. In an isothermal cyclic reaction, the RNAs are reverse

transcribed into DNA, and transcribed once again with a polymerase such as T7 or SP6. The resulting products, whether truncated or complete, indicate target-specific sequences.

Eur. Pat. Appl. Publ. No. 329,822, incorporated herein by reference in its entirety, disclose a nucleic acid amplification process involving cyclically synthesizing

5   single-stranded RNA ("ssRNA"), ssDNA, and double-stranded DNA (dsDNA), which may be used in accordance with the present invention. The ssRNA is a first template for a first primer oligonucleotide, which is elongated by reverse transcriptase (RNA-dependent DNA polymerase). The RNA is then removed from resulting DNA:RNA duplex by the action of ribonuclease H (RNase H, an RNase specific for RNA in a duplex with either DNA or

10   RNA). The resultant ssDNA is a second template for a second primer, which also includes the sequences of an RNA polymerase promoter (exemplified by T7 RNA polymerase) 5' to its homology to its template.   This primer is then extended by DNA polymerase (exemplified by the large "Klenow" fragment of *E. coli* DNA polymerase I), resulting as a double-stranded DNA ("dsDNA") molecule, having a sequence identical to that of the

15   original RNA between the primers and having additionally, at one end, a promoter sequence. This promoter sequence can be used by the appropriate RNA polymerase to make many RNA copies of the DNA. These copies can then re-enter the cycle leading to very swift amplification. With proper choice of enzymes, this amplification can be done isothermally without addition of enzymes at each cycle. Because of the cyclical nature of

20   this process, the starting sequence can be chosen to be in the form of either DNA or RNA.

PCT Intl. Pat. Appl. Publ. No. WO 89/06700, incorporated herein by reference in its entirety, disclose a nucleic acid sequence amplification scheme based on the hybridization of a promoter/primer sequence to a target single-stranded DNA ("ssDNA") followed by transcription of many RNA copies of the sequence. This scheme is not cyclic;

25   *i.e.* new templates are not produced from the resultant RNA transcripts.   Other amplification methods include "RACE" (Frohman, 1990), and "one-sided PCR" (Ohara, 1989) which are well-known to those of skill in the art.

Methods based on ligation of two (or more) oligonucleotides in the presence of nucleic acid having the sequence of the resulting "di-oligonucleotide", thereby

amplifying the di-oligonucleotide (Wu and Dean, 1996, incorporated herein by reference in its entirety), may also be used in the amplification of DNA sequences of the present invention.

BIOLOGICAL FUNCTIONAL EQUIVALENTS

5   Modification and changes may be made in the structure of the polynucleotides and polypeptides of the present invention and still obtain a functional molecule that encodes a polypeptide with desirable characteristics. As mentioned above, it is often desirable to introduce one or more mutations into a specific polynucleotide sequence. In certain circumstances, the resulting encoded polypeptide sequence is altered

10   by this mutation, or in other cases, the sequence of the polypeptide is unchanged by one or more mutations in the encoding polynucleotide.

When it is desirable to alter the amino acid sequence of a polypeptide to create an equivalent, or even an improved, second-generation molecule, the amino acid changes may be achieved by changing one or more of the codons of the encoding DNA

15   sequence, according to Table 1.

For example, certain amino acids may be substituted for other amino acids in a protein structure without appreciable loss of interactive binding capacity with structures such as, for example, antigen-binding regions of antibodies or binding sites on substrate molecules. Since it is the interactive capacity and nature of a protein that defines

20   that protein's biological functional activity, certain amino acid sequence substitutions can be made in a protein sequence, and, of course, its underlying DNA coding sequence, and nevertheless obtain a protein with like properties. It is thus contemplated by the inventors that various changes may be made in the peptide sequences of the disclosed compositions, or corresponding DNA sequences which encode said peptides without appreciable loss of

25   their biological utility or activity.

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TABLE 1

Amino Acids			Codons					
Alanine	Ala	A	GCA	GCC	GCG	GCU		
Cysteine	Cys	C	UGC	UGU				
Aspartic acid	Asp	D	GAC	GAU				
Glutamic acid	Glu	E	GAA	GAG				
Phenylalanine	Phe	F	UUC	UUU				
Glycine	Gly	G	GGA	GGC	GGG	GGU		
Histidine	His	H	CAC	CAU				
Isoleucine	Ile	I	AUA	AUC	AUU			
Lysine	Lys	K	AAA	AAG				
Leucine	Leu	L	UUA	UUG	CUA	CUC	CUG	CUU
Methionine	Met	M	AUG					
Asparagine	Asn	N	AAC	AAU				
Proline	Pro	P	CCA	CCC	CCG	CCU		
Glutamine	Gln	Q	CAA	CAG				
Arginine	Arg	R	AGA	AGG	CGA	CGC	CGG	CGU
Serine	Ser	S	AGC	AGU	UCA	UCC	UCG	UCU
Threonine	Thr	T	ACA	ACC	ACG	ACU		
Valine	Val	V	GUA	GUC	GUG	GUU		
Tryptophan	Trp	W	UGG					
Tyrosine	Tyr	Y	UAC	UAU				

In making such changes, the hydropathic index of amino acids may be considered. The importance of the hydropathic amino acid index in conferring interactive biologic function on a protein is generally understood in the art (Kyte and Doolittle, 1982, incorporated herein by reference). It is accepted that the relative hydropathic character of the amino acid contributes to the secondary structure of the resultant protein, which in turn defines the interaction of the protein with other molecules, for example, enzymes,

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substrates, receptors, DNA, antibodies, antigens, and the like. Each amino acid has been assigned a hydropathic index on the basis of its hydrophobicity and charge characteristics (Kyte and Doolittle, 1982). These values are: isoleucine (+4.5); valine (+4.2); leucine (+3.8); phenylalanine (+2.8); cysteine/cystine (+2.5); methionine (+1.9); alanine (+1.8);

5 glycine (–0.4); threonine (–0.7); serine (–0.8); tryptophan (–0.9); tyrosine (–1.3); proline (–1.6); histidine (–3.2); glutamate (–3.5); glutamine (–3.5); aspartate (–3.5); asparagine (–3.5); lysine (–3.9); and arginine (–4.5).

It is known in the art that certain amino acids may be substituted by other amino acids having a similar hydropathic index or score and still result in a protein with

10 similar biological activity, *i.e.* still obtain a biological functionally equivalent protein. In making such changes, the substitution of amino acids whose hydropathic indices are within ±2 is preferred, those within ±1 are particularly preferred, and those within ±0.5 are even more particularly preferred. It is also understood in the art that the substitution of like amino acids can be made effectively on the basis of hydrophilicity. U. S. Patent 4,554,101

15 (specifically incorporated herein by reference in its entirety), states that the greatest local average hydrophilicity of a protein, as governed by the hydrophilicity of its adjacent amino acids, correlates with a biological property of the protein.

As detailed in U. S. Patent 4,554,101, the following hydrophilicity values have been assigned to amino acid residues: arginine (+3.0); lysine (+3.0); aspartate (+3.0 ±

20 1); glutamate (+3.0 ± 1); serine (+0.3); asparagine (+0.2); glutamine (+0.2); glycine (0); threonine (–0.4); proline (–0.5 ± 1); alanine (–0.5); histidine (–0.5); cysteine (–1.0); methionine (–1.3); valine (–1.5); leucine (–1.8); isoleucine (–1.8); tyrosine (–2.3); phenylalanine (–2.5); tryptophan (–3.4). It is understood that an amino acid can be substituted for another having a similar hydrophilicity value and still obtain a biologically

25 equivalent, and in particular, an immunologically equivalent protein. In such changes, the substitution of amino acids whose hydrophilicity values are within ±2 is preferred, those within ±1 are particularly preferred, and those within ±0.5 are even more particularly preferred.

As outlined above, amino acid substitutions are generally therefore based on the relative similarity of the amino acid side-chain substituents, for example, their hydrophobicity, hydrophilicity, charge, size, and the like. Exemplary substitutions that take various of the foregoing characteristics into consideration are well known to those of

5 skill in the art and include: arginine and lysine; glutamate and aspartate; serine and threonine; glutamine and asparagine; and valine, leucine and isoleucine.

In addition, any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather than

10 phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such as inosine, queosine and wybutosine, as well as acetyl- methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

IN VIVO POLYNUCLEOTIDE DELIVERY TECHNIQUES

In additional embodiments, genetic constructs comprising one or more of

15 the polynucleotides of the invention are introduced into cells *in vivo*. This may be achieved using any of a variety or well known approaches, several of which are outlined below for the purpose of illustration.

1. ADENOVIRUS

One of the preferred methods for *in vivo* delivery of one or more nucleic

20 acid sequences involves the use of an adenovirus expression vector. "Adenovirus expression vector" is meant to include those constructs containing adenovirus sequences sufficient to (a) support packaging of the construct and (b) to express a polynucleotide that has been cloned therein in a sense or antisense orientation. Of course, in the context of an antisense construct, expression does not require that the gene product be synthesized.

25 The expression vector comprises a genetically engineered form of an adenovirus. Knowledge of the genetic organization of adenovirus, a 36 kb, linear, double-stranded DNA virus, allows substitution of large pieces of adenoviral DNA with foreign

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sequences up to 7 kb (Grunhaus and Horwitz, 1992). In contrast to retrovirus, the adenoviral infection of host cells does not result in chromosomal integration because adenoviral DNA can replicate in an episomal manner without potential genotoxicity. Also, adenoviruses are structurally stable, and no genome rearrangement has been detected after

5   extensive amplification. Adenovirus can infect virtually all epithelial cells regardless of their cell cycle stage. So far, adenoviral infection appears to be linked only to mild disease such as acute respiratory disease in humans.

Adenovirus is particularly suitable for use as a gene transfer vector because of its mid-sized genome, ease of manipulation, high titer, wide target-cell range and high

10   infectivity. Both ends of the viral genome contain 100-200 base pair inverted repeats (ITRs), which are *cis* elements necessary for viral DNA replication and packaging. The early (E) and late (L) regions of the genome contain different transcription units that are divided by the onset of viral DNA replication. The E1 region (E1A and E1B) encodes proteins responsible for the regulation of transcription of the viral genome and a few

15   cellular genes. The expression of the E2 region (E2A and E2B) results in the synthesis of the proteins for viral DNA replication. These proteins are involved in DNA replication, late gene expression and host cell shut-off (Renan, 1990). The products of the late genes, including the majority of the viral capsid proteins, are expressed only after significant processing of a single primary transcript issued by the major late promoter (MLP). The

20   MLP, (located at 16.8 m.u.) is particularly efficient during the late phase of infection, and all the mRNA's issued from this promoter possess a 5'-tripartite leader (TPL) sequence which makes them preferred mRNA's for translation.

In a current system, recombinant adenovirus is generated from homologous recombination between shuttle vector and provirus vector. Due to the possible

25   recombination between two proviral vectors, wild-type adenovirus may be generated from this process. Therefore, it is critical to isolate a single clone of virus from an individual plaque and examine its genomic structure.

Generation and propagation of the current adenovirus vectors, which are replication deficient, depend on a unique helper cell line, designated 293, which was

transformed from human embryonic kidney cells by Ad5 DNA fragments and constitutively expresses E1 proteins (Graham *et al.*, 1977). Since the E3 region is dispensable from the adenovirus genome (Jones and Shenk, 1978), the current adenovirus vectors, with the help of 293 cells, carry foreign DNA in either the E1, the D3 or both

5   regions (Graham and Prevec, 1991). In nature, adenovirus can package approximately 105% of the wild-type genome (Ghosh-Choudhury *et al.*, 1987), providing capacity for about 2 extra kB of DNA. Combined with the approximately 5.5 kB of DNA that is replaceable in the E1 and E3 regions, the maximum capacity of the current adenovirus vector is under 7.5 kB, or about 15% of the total length of the vector. More than 80% of

10   the adenovirus viral genome remains in the vector backbone and is the source of vector-borne cytotoxicity. Also, the replication deficiency of the E1-deleted virus is incomplete. For example, leakage of viral gene expression has been observed with the currently available vectors at high multiplicities of infection (MOI) (Mulligan, 1993).

Helper cell lines may be derived from human cells such as human

15   embryonic kidney cells, muscle cells, hematopoietic cells or other human embryonic mesenchymal or epithelial cells. Alternatively, the helper cells may be derived from the cells of other mammalian species that are permissive for human adenovirus. Such cells include, *e.g.*, Vero cells or other monkey embryonic mesenchymal or epithelial cells. As stated above, the currently preferred helper cell line is 293.

20   Recently, Racher *et al.* (1995) disclosed improved methods for culturing 293 cells and propagating adenovirus. In one format, natural cell aggregates are grown by inoculating individual cells into 1 liter siliconized spinner flasks (Techne, Cambridge, UK) containing 100-200 ml of medium. Following stirring at 40 rpm, the cell viability is estimated with trypan blue. In another format, Fibra-Cel microcarriers (Bibby Sterlin,

25   Stone, UK) (5 g/l) is employed as follows. A cell inoculum, resuspended in 5 ml of medium, is added to the carrier (50 ml) in a 250 ml Erlenmeyer flask and left stationary, with occasional agitation, for 1 to 4 h. The medium is then replaced with 50 ml of fresh medium and shaking initiated. For virus production, cells are allowed to grow to about 80% confluence, after which time the medium is replaced (to 25% of the final volume) and

adenovirus added at an MOI of 0.05. Cultures are left stationary overnight, following which the volume is increased to 100% and shaking commenced for another 72 h.

Other than the requirement that the adenovirus vector be replication defective, or at least conditionally defective, the nature of the adenovirus vector is not believed to be crucial to the successful practice of the invention. The adenovirus may be of any of the 42 different known serotypes or subgroups A-F. Adenovirus type 5 of subgroup C is the preferred starting material in order to obtain a conditional replication-defective adenovirus vector for use in the present invention, since Adenovirus type 5 is a human adenovirus about which a great deal of biochemical and genetic information is known, and it has historically been used for most constructions employing adenovirus as a vector.

As stated above, the typical vector according to the present invention is replication defective and will not have an adenovirus E1 region. Thus, it will be most convenient to introduce the polynucleotide encoding the gene of interest at the position from which the E1-coding sequences have been removed. However, the position of insertion of the construct within the adenovirus sequences is not critical to the invention. The polynucleotide encoding the gene of interest may also be inserted in lieu of the deleted E3 region in E3 replacement vectors as described by Karlsson *et al.* (1986) or in the E4 region where a helper cell line or helper virus complements the E4 defect.

Adenovirus is easy to grow and manipulate and exhibits broad host range *in vitro* and *in vivo*. This group of viruses can be obtained in high titers, *e.g.*, 10^9-10^{11} plaque-forming units per ml, and they are highly infective. The life cycle of adenovirus does not require integration into the host cell genome. The foreign genes delivered by adenovirus vectors are episomal and, therefore, have low genotoxicity to host cells. No side effects have been reported in studies of vaccination with wild-type adenovirus (Couch *et al.*, 1963; Top *et al.*, 1971), demonstrating their safety and therapeutic potential as *in vivo* gene transfer vectors.

Adenovirus vectors have been used in eukaryotic gene expression (Levrero *et al.*, 1991; Gomez-Foix *et al.*, 1992) and vaccine development (Grunhaus and Horwitz, 1992; Graham and Prevec, 1992). Recently, animal studies suggested that recombinant

adenovirus could be used for gene therapy (Stratford-Perricaudet and Perricaudet, 1991; Stratford-Perricaudet *et al.*, 1990; Rich *et al.*, 1993). Studies in administering recombinant adenovirus to different tissues include trachea instillation (Rosenfeld *et al.*, 1991; Rosenfeld *et al.*, 1992), muscle injection (Ragot *et al.*, 1993), peripheral intravenous

5   injections (Herz and Gerard, 1993) and stereotactic inoculation into the brain (Le Gal La Salle *et al.*, 1993).

2.   RETROVIRUSES

The retroviruses are a group of single-stranded RNA viruses characterized by an ability to convert their RNA to double-stranded DNA in infected cells by a process of

10   reverse-transcription (Coffin, 1990). The resulting DNA then stably integrates into cellular chromosomes as a provirus and directs synthesis of viral proteins. The integration results in the retention of the viral gene sequences in the recipient cell and its descendants. The retroviral genome contains three genes, gag, pol, and env that code for capsid proteins, polymerase enzyme, and envelope components, respectively. A sequence found upstream

15   from the gag gene contains a signal for packaging of the genome into virions. Two long terminal repeat (LTR) sequences are present at the 5' and 3' ends of the viral genome. These contain strong promoter and enhancer sequences and are also required for integration in the host cell genome (Coffin, 1990).

In order to construct a retroviral vector, a nucleic acid encoding one or more

20   oligonucleotide or polynucleotide sequences of interest is inserted into the viral genome in the place of certain viral sequences to produce a virus that is replication-defective. In order to produce virions, a packaging cell line containing the gag, pol, and env genes but without the LTR and packaging components is constructed (Mann *et al.*, 1983). When a recombinant plasmid containing a cDNA, together with the retroviral LTR and packaging

25   sequences is introduced into this cell line (by calcium phosphate precipitation for example), the packaging sequence allows the RNA transcript of the recombinant plasmid to be packaged into viral particles, which are then secreted into the culture media (Nicolas and Rubenstein, 1988; Temin, 1986; Mann *et al.*, 1983). The media containing the

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recombinant retroviruses is then collected, optionally concentrated, and used for gene transfer. Retroviral vectors are able to infect a broad variety of cell types. However, integration and stable expression require the division of host cells (Paskind *et al.*, 1975).

5   A novel approach designed to allow specific targeting of retrovirus vectors was recently developed based on the chemical modification of a retrovirus by the chemical addition of lactose residues to the viral envelope. This modification could permit the specific infection of hepatocytes *via* sialoglycoprotein receptors.

A different approach to targeting of recombinant retroviruses was designed in which biotinylated antibodies against a retroviral envelope protein and against a specific cell receptor were used. The antibodies were coupled *via* the biotin components by using streptavidin (Roux *et al.*, 1989). Using antibodies against major histocompatibility complex class I and class II antigens, they demonstrated the infection of a variety of human cells that bore those surface antigens with an ecotropic virus *in vitro* (Roux *et al.*, 1989).

3.   ADENO-ASSOCIATED VIRUSES

15   AAV (Ridgeway, 1988; Hermonat and Muzycska, 1984) is a parovirus, discovered as a contamination of adenoviral stocks. It is a ubiquitous virus (antibodies are present in 85% of the US human population) that has not been linked to any disease. It is also classified as a dependovirus, because its replications is dependent on the presence of a helper virus, such as adenovirus. Five serotypes have been isolated, of which AAV-2 is the

20   best characterized. AAV has a single-stranded linear DNA that is encapsidated into capsid proteins VP1, VP2 and VP3 to form an icosahedral virion of 20 to 24 nm in diameter (Muzyczka and McLaughlin, 1988).

The AAV DNA is approximately 4.7 kilobases long. It contains two open reading frames and is flanked by two ITRs. There are two major genes in the AAV

25   genome: *rep* and *cap*. The *rep* gene codes for proteins responsible for viral replications, whereas *cap* codes for capsid protein VP1-3. Each ITR forms a T-shaped hairpin structure. These terminal repeats are the only essential *cis* components of the AAV for chromosomal integration. Therefore, the AAV can be used as a vector with all viral coding

sequences removed and replaced by the cassette of genes for delivery. Three viral promoters have been identified and named p5, p19, and p40, according to their map position. Transcription from p5 and p19 results in production of rep proteins, and transcription from p40 produces the capsid proteins (Hermonat and Muzyczka, 1984).

5   There are several factors that prompted researchers to study the possibility of using rAAV as an expression vector One is that the requirements for delivering a gene to integrate into the host chromosome are surprisingly few. It is necessary to have the 145-bp ITRs, which are only 6% of the AAV genome. This leaves room in the vector to assemble a 4.5-kb DNA insertion. While this carrying capacity may prevent the AAV from
10   delivering large genes, it is amply suited for delivering the antisense constructs of the present invention.

AAV is also a good choice of delivery vehicles due to its safety. There is a relatively complicated rescue mechanism: not only wild type adenovirus but also AAV genes are required to mobilize rAAV. Likewise, AAV is not pathogenic and not associated
15   with any disease. The removal of viral coding sequences minimizes immune reactions to viral gene expression, and therefore, rAAV does not evoke an inflammatory response.

4.   OTHER VIRAL VECTORS AS EXPRESSION CONSTRUCTS

Other viral vectors may be employed as expression constructs in the present invention for the delivery of oligonucleotide or polynucleotide sequences to a host cell.
20   Vectors derived from viruses such as vaccinia virus (Ridgeway, 1988; Coupar *et al.*, 1988), lentiviruses, polio viruses and herpes viruses may be employed. They offer several attractive features for various mammalian cells (Friedmann, 1989; Ridgeway, 1988; Coupar *et al.*, 1988; Horwich *et al.*, 1990).

With the recent recognition of defective hepatitis B viruses, new insight was
25   gained into the structure-function relationship of different viral sequences. *In vitro* studies showed that the virus could retain the ability for helper-dependent packaging and reverse transcription despite the deletion of up to 80% of its genome (Horwich *et al.*, 1990). This suggested that large portions of the genome could be replaced with foreign genetic

material. The hepatotropism and persistence (integration) were particularly attractive properties for liver-directed gene transfer. Chang *et al.* (1991) introduced the chloramphenicol acetyltransferase (CAT) gene into duck hepatitis B virus genome in the place of the polymerase, surface, and pre-surface coding sequences. It was cotransfected 5 with wild-type virus into an avian hepatoma cell line. Culture media containing high titers of the recombinant virus were used to infect primary duckling hepatocytes. Stable CAT gene expression was detected for at least 24 days after transfection (Chang *et al.*, 1991).

5.   NON-VIRAL VECTORS

In order to effect expression of the oligonucleotide or polynucleotide 10 sequences of the present invention, the expression construct must be delivered into a cell. This delivery may be accomplished *in vitro*, as in laboratory procedures for transforming cells lines, or *in vivo* or *ex vivo*, as in the treatment of certain disease states. As described above, one preferred mechanism for delivery is *via* viral infection where the expression construct is encapsulated in an infectious viral particle.

15   Once the expression construct has been delivered into the cell the nucleic acid encoding the desired oligonucleotide or polynucleotide sequences may be positioned and expressed at different sites. In certain embodiments, the nucleic acid encoding the construct may be stably integrated into the genome of the cell. This integration may be in the specific location and orientation *via* homologous recombination (gene replacement) or 20 it may be integrated in a random, non-specific location (gene augmentation). In yet further embodiments, the nucleic acid may be stably maintained in the cell as a separate, episomal segment of DNA. Such nucleic acid segments or "episomes" encode sequences sufficient to permit maintenance and replication independent of or in synchronization with the host cell cycle. How the expression construct is delivered to a cell and where in the cell the 25 nucleic acid remains is dependent on the type of expression construct employed.

In certain embodiments of the invention, the expression construct comprising one or more oligonucleotide or polynucleotide sequences may simply consist of naked recombinant DNA or plasmids. Transfer of the construct may be performed by any

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of the methods mentioned above which physically or chemically permeabilize the cell membrane. This is particularly applicable for transfer *in vitro* but it may be applied to *in vivo* use as well. Dubensky *et al.* (1984) successfully injected polyomavirus DNA in the form of calcium phosphate precipitates into liver and spleen of adult and newborn mice demonstrating active viral replication and acute infection. Benvenisty and Reshef (1986) also demonstrated that direct intraperitoneal injection of calcium phosphate-precipitated plasmids results in expression of the transfected genes. It is envisioned that DNA encoding a gene of interest may also be transferred in a similar manner *in vivo* and express the gene product.

Another embodiment of the invention for transferring a naked DNA expression construct into cells may involve particle bombardment. This method depends on the ability to accelerate DNA-coated microprojectiles to a high velocity allowing them to pierce cell membranes and enter cells without killing them (Klein *et al.*, 1987). Several devices for accelerating small particles have been developed. One such device relies on a high voltage discharge to generate an electrical current, which in turn provides the motive force (Yang *et al.*, 1990). The microprojectiles used have consisted of biologically inert substances such as tungsten or gold beads.

Selected organs including the liver, skin, and muscle tissue of rats and mice have been bombarded *in vivo* (Yang *et al.*, 1990; Zelenin *et al.*, 1991). This may require surgical exposure of the tissue or cells, to eliminate any intervening tissue between the gun and the target organ, *i.e. ex vivo* treatment. Again, DNA encoding a particular gene may be delivered *via* this method and still be incorporated by the present invention.

ANTISENSE OLIGONUCLEOTIDES

The end result of the flow of genetic information is the synthesis of protein. DNA is transcribed by polymerases into messenger RNA and translated on the ribosome to yield a folded, functional protein. Thus there are several steps along the route where protein synthesis can be inhibited. The native DNA segment coding for a polypeptide described herein, as all such mammalian DNA strands, has two strands: a sense strand and

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an antisense strand held together by hydrogen bonding. The messenger RNA coding for polypeptide has the same nucleotide sequence as the sense DNA strand except that the DNA thymidine is replaced by uridine. Thus, synthetic antisense nucleotide sequences will bind to a mRNA and inhibit expression of the protein encoded by that mRNA.

5   The targeting of antisense oligonucleotides to mRNA is thus one mechanism to shut down protein synthesis, and, consequently, represents a powerful and targeted therapeutic approach. For example, the synthesis of polygalactauronase and the muscarine type 2 acetylcholine receptor are inhibited by antisense oligonucleotides directed to their respective mRNA sequences (U. S. Patent 5,739,119 and U. S. Patent 5,759,829, each

10   specifically incorporated herein by reference in its entirety). Further, examples of antisense inhibition have been demonstrated with the nuclear protein cyclin, the multiple drug resistance gene (MDG1), ICAM-1, E-selectin, STK-1, striatal $GABA_A$ receptor and human EGF (Jaskulski *et al.*, 1988; Vasanthakumar and Ahmed, 1989; Peris *et al.*, 1998; U. S. Patent 5,801,154; U. S. Patent 5,789,573; U. S. Patent 5,718,709 and U. S. Patent

15   5,610,288, each specifically incorporated herein by reference in its entirety). Antisense constructs have also been described that inhibit and can be used to treat a variety of abnormal cellular proliferations, *e.g.* cancer (U. S. Patent 5,747,470; U. S. Patent 5,591,317 and U. S. Patent 5,783,683, each specifically incorporated herein by reference in its entirety).

20   Therefore, in exemplary embodiments, the invention provides oligonucleotide sequences that comprise all, or a portion of, any sequence that is capable of specifically binding to polynucleotide sequence described herein, or a complement thereof. In one embodiment, the antisense oligonucleotides comprise DNA or derivatives thereof. In another embodiment, the oligonucleotides comprise RNA or derivatives thereof. In a

25   third embodiment, the oligonucleotides are modified DNAs comprising a phosphorothioated modified backbone. In a fourth embodiment, the oligonucleotide sequences comprise peptide nucleic acids or derivatives thereof. In each case, preferred compositions comprise a sequence region that is complementary, and more preferably

substantially-complementary, and even more preferably, completely complementary to one or more portions of polynucleotides disclosed herein.

Selection of antisense compositions specific for a given gene sequence is based upon analysis of the chosen target sequence (*i.e.* in these illustrative examples the rat and human sequences) and determination of secondary structure, T_m, binding energy, relative stability, and antisense compositions were selected based upon their relative inability to form dimers, hairpins, or other secondary structures that would reduce or prohibit specific binding to the target mRNA in a host cell.

Highly preferred target regions of the mRNA, are those which are at or near the AUG translation initiation codon, and those sequences which were substantially complementary to 5' regions of the mRNA. These secondary structure analyses and target site selection considerations were performed using v.4 of the OLIGO primer analysis software (Rychlik, 1997) and the BLASTN 2.0.5 algorithm software (Altschul *et al.*, 1997).

The use of an antisense delivery method employing a short peptide vector, termed MPG (27 residues), is also contemplated. The MPG peptide contains a hydrophobic domain derived from the fusion sequence of HIV gp41 and a hydrophilic domain from the nuclear localization sequence of SV40 T-antigen (Morris *et al.*, 1997). It has been demonstrated that several molecules of the MPG peptide coat the antisense oligonucleotides and can be delivered into cultured mammalian cells in less than 1 hour with relatively high efficiency (90%). Further, the interaction with MPG strongly increases both the stability of the oligonucleotide to nuclease and the ability to cross the plasma membrane (Morris *et al.*, 1997).

RIBOZYMES

Although proteins traditionally have been used for catalysis of nucleic acids, another class of macromolecules has emerged as useful in this endeavor. Ribozymes are RNA-protein complexes that cleave nucleic acids in a site-specific fashion. Ribozymes have specific catalytic domains that possess endonuclease activity (Kim and Cech, 1987; Gerlach *et al.*, 1987; Forster and Symons, 1987). For example, a large number of

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ribozymes accelerate phosphoester transfer reactions with a high degree of specificity, often cleaving only one of several phosphoesters in an oligonucleotide substrate (Cech *et al.*, 1981; Michel and Westhof, 1990; Reinhold-Hurek and Shub, 1992). This specificity has been attributed to the requirement that the substrate bind via specific base-pairing interactions to the internal guide sequence ("IGS") of the ribozyme prior to chemical reaction.

Ribozyme catalysis has primarily been observed as part of sequence-specific cleavage/ligation reactions involving nucleic acids (Joyce, 1989; Cech *et al.*, 1981). For example, U. S. Patent No. 5,354,855 (specifically incorporated herein by reference) reports that certain ribozymes can act as endonucleases with a sequence specificity greater than that of known ribonucleases and approaching that of the DNA restriction enzymes. Thus, sequence-specific ribozyme-mediated inhibition of gene expression may be particularly suited to therapeutic applications (Scanlon *et al.*, 1991; Sarver *et al.*, 1990). Recently, it was reported that ribozymes elicited genetic changes in some cells lines to which they were applied; the altered genes included the oncogenes H-*ras*, c-*fos* and genes of HIV. Most of this work involved the modification of a target mRNA, based on a specific mutant codon that is cleaved by a specific ribozyme.

Six basic varieties of naturally-occurring enzymatic RNAs are known presently. Each can catalyze the hydrolysis of RNA phosphodiester bonds *in trans* (and thus can cleave other RNA molecules) under physiological conditions. In general, enzymatic nucleic acids act by first binding to a target RNA. Such binding occurs through the target binding portion of a enzymatic nucleic acid which is held in close proximity to an enzymatic portion of the molecule that acts to cleave the target RNA. Thus, the enzymatic nucleic acid first recognizes and then binds a target RNA through complementary base-pairing, and once bound to the correct site, acts enzymatically to cut the target RNA. Strategic cleavage of such a target RNA will destroy its ability to direct synthesis of an encoded protein. After an enzymatic nucleic acid has bound and cleaved its RNA target, it is released from that RNA to search for another target and can repeatedly bind and cleave new targets.

The enzymatic nature of a ribozyme is advantageous over many technologies, such as antisense technology (where a nucleic acid molecule simply binds to a nucleic acid target to block its translation) since the concentration of ribozyme necessary to affect a therapeutic treatment is lower than that of an antisense oligonucleotide. This advantage reflects the ability of the ribozyme to act enzymatically. Thus, a single ribozyme molecule is able to cleave many molecules of target RNA. In addition, the ribozyme is a highly specific inhibitor, with the specificity of inhibition depending not only on the base pairing mechanism of binding to the target RNA, but also on the mechanism of target RNA cleavage. Single mismatches, or base-substitutions, near the site of cleavage can completely eliminate catalytic activity of a ribozyme. Similar mismatches in antisense molecules do not prevent their action (Woolf *et al.*, 1992). Thus, the specificity of action of a ribozyme is greater than that of an antisense oligonucleotide binding the same RNA site.

The enzymatic nucleic acid molecule may be formed in a hammerhead, hairpin, a hepatitis δ virus, group I intron or RNaseP RNA (in association with an RNA guide sequence) or Neurospora VS RNA motif. Examples of hammerhead motifs are described by Rossi *et al.* (1992). Examples of hairpin motifs are described by Hampel *et al.* (Eur. Pat. Appl. Publ. No. EP 0360257), Hampel and Tritz (1989), Hampel *et al.* (1990) and U. S. Patent 5,631,359 (specifically incorporated herein by reference). An example of the hepatitis δ virus motif is described by Perrotta and Been (1992); an example of the RNaseP motif is described by Guerrier-Takada *et al.* (1983); Neurospora VS RNA ribozyme motif is described by Collins (Saville and Collins, 1990; Saville and Collins, 1991; Collins and Olive, 1993); and an example of the Group I intron is described in (U. S. Patent 4,987,071, specifically incorporated herein by reference). All that is important in an enzymatic nucleic acid molecule of this invention is that it has a specific substrate binding site which is complementary to one or more of the target gene RNA regions, and that it have nucleotide sequences within or surrounding that substrate binding site which impart an RNA cleaving activity to the molecule. Thus the ribozyme constructs need not be limited to specific motifs mentioned herein.

In certain embodiments, it may be important to produce enzymatic cleaving agents which exhibit a high degree of specificity for the RNA of a desired target, such as one of the sequences disclosed herein. The enzymatic nucleic acid molecule is preferably targeted to a highly conserved sequence region of a target mRNA. Such enzymatic nucleic acid molecules can be delivered exogenously to specific cells as required. Alternatively, the ribozymes can be expressed from DNA or RNA vectors that are delivered to specific cells.

Small enzymatic nucleic acid motifs (e.g., of the hammerhead or the hairpin structure) may also be used for exogenous delivery. The simple structure of these molecules increases the ability of the enzymatic nucleic acid to invade targeted regions of the mRNA structure. Alternatively, catalytic RNA molecules can be expressed within cells from eukaryotic promoters (e.g., Scanlon et al., 1991; Kashani-Sabet et al., 1992; Dropulic et al., 1992; Weerasinghe et al., 1991; Ojwang et al., 1992; Chen et al., 1992; Sarver et al., 1990). Those skilled in the art realize that any ribozyme can be expressed in eukaryotic cells from the appropriate DNA vector. The activity of such ribozymes can be augmented by their release from the primary transcript by a second ribozyme (Int. Pat. Appl. Publ. No. WO 93/23569, and Int. Pat. Appl. Publ. No. WO 94/02595, both hereby incorporated by reference; Ohkawa et al., 1992; Taira et al., 1991; and Ventura et al., 1993).

Ribozymes may be added directly, or can be complexed with cationic lipids, lipid complexes, packaged within liposomes, or otherwise delivered to target cells. The RNA or RNA complexes can be locally administered to relevant tissues ex vivo, or in vivo through injection, aerosol inhalation, infusion pump or stent, with or without their incorporation in biopolymers.

Ribozymes may be designed as described in Int. Pat. Appl. Publ. No. WO 93/23569 and Int. Pat. Appl. Publ. No. WO 94/02595, each specifically incorporated herein by reference) and synthesized to be tested in vitro and in vivo, as described. Such ribozymes can also be optimized for delivery. While specific examples are provided, those in the art will recognize that equivalent RNA targets in other species can be utilized when necessary.

Hammerhead or hairpin ribozymes may be individually analyzed by computer folding (Jaeger *et al.*, 1989) to assess whether the ribozyme sequences fold into the appropriate secondary structure. Those ribozymes with unfavorable intramolecular interactions between the binding arms and the catalytic core are eliminated from

5 consideration. Varying binding arm lengths can be chosen to optimize activity. Generally, at least 5 or so bases on each arm are able to bind to, or otherwise interact with, the target RNA.

Ribozymes of the hammerhead or hairpin motif may be designed to anneal to various sites in the mRNA message, and can be chemically synthesized. The method of

10 synthesis used follows the procedure for normal RNA synthesis as described in Usman *et al.* (1987) and in Scaringe *et al.* (1990) and makes use of common nucleic acid protecting and coupling groups, such as dimethoxytrityl at the 5'-end, and phosphoramidites at the 3'-end. Average stepwise coupling yields are typically >98%. Hairpin ribozymes may be synthesized in two parts and annealed to reconstruct an active

15 ribozyme (Chowrira and Burke, 1992). Ribozymes may be modified extensively to enhance stability by modification with nuclease resistant groups, for example, 2'-amino, 2'-C-allyl, 2'-fluoro, 2'-O-methyl, 2'-H (for a review see *e.g.*, Usman and Cedergren, 1992). Ribozymes may be purified by gel electrophoresis using general methods or by high pressure liquid chromatography and resuspended in water.

20 Ribozyme activity can be optimized by altering the length of the ribozyme binding arms, or chemically synthesizing ribozymes with modifications that prevent their degradation by serum ribonucleases (see *e.g.*, Int. Pat. Appl. Publ. No. WO 92/07065; Perrault *et al*, 1990; Pieken *et al.*, 1991; Usman and Cedergren, 1992; Int. Pat. Appl. Publ. No. WO 93/15187; Int. Pat. Appl. Publ. No. WO 91/03162; Eur. Pat. Appl. Publ.

25 No. 92110298.4; U. S. Patent 5,334,711; and Int. Pat. Appl. Publ. No. WO 94/13688, which describe various chemical modifications that can be made to the sugar moieties of enzymatic RNA molecules), modifications which enhance their efficacy in cells, and removal of stem II bases to shorten RNA synthesis times and reduce chemical requirements.

Sullivan *et al.* (Int. Pat. Appl. Publ. No. WO 94/02595) describes the general methods for delivery of enzymatic RNA molecules. Ribozymes may be administered to cells by a variety of methods known to those familiar to the art, including, but not restricted to, encapsulation in liposomes, by iontophoresis, or by incorporation into

5   other vehicles, such as hydrogels, cyclodextrins, biodegradable nanocapsules, and bioadhesive microspheres. For some indications, ribozymes may be directly delivered *ex vivo* to cells or tissues with or without the aforementioned vehicles. Alternatively, the RNA/vehicle combination may be locally delivered by direct inhalation, by direct injection or by use of a catheter, infusion pump or stent. Other routes of delivery include, but are not

10   limited to, intravascular, intramuscular, subcutaneous or joint injection, aerosol inhalation, oral (tablet or pill form), topical, systemic, ocular, intraperitoneal and/or intrathecal delivery. More detailed descriptions of ribozyme delivery and administration are provided in Int. Pat. Appl. Publ. No. WO 94/02595 and Int. Pat. Appl. Publ. No. WO 93/23569, each specifically incorporated herein by reference.

15   Another means of accumulating high concentrations of a ribozyme(s) within cells is to incorporate the ribozyme-encoding sequences into a DNA expression vector. Transcription of the ribozyme sequences are driven from a promoter for eukaryotic RNA polymerase I (pol I), RNA polymerase II (pol II), or RNA polymerase III (pol III). Transcripts from pol II or pol III promoters will be expressed at high levels in all cells; the

20   levels of a given pol II promoter in a given cell type will depend on the nature of the gene regulatory sequences (enhancers, silencers, *etc.*) present nearby. Prokaryotic RNA polymerase promoters may also be used, providing that the prokaryotic RNA polymerase enzyme is expressed in the appropriate cells (Elroy-Stein and Moss, 1990; Gao and Huang, 1993; Lieber *et al.*, 1993; Zhou *et al.*, 1990). Ribozymes expressed from such promoters

25   can function in mammalian cells (*e.g.* Kashani-Saber *et al.*, 1992; Ojwang *et al.*, 1992; Chen *et al.*, 1992; Yu *et al.*, 1993; L'Huillier *et al.*, 1992; Lisziewicz *et al.*, 1993). Such transcription units can be incorporated into a variety of vectors for introduction into mammalian cells, including but not restricted to, plasmid DNA vectors, viral DNA vectors

(such as adenovirus or adeno-associated vectors), or viral RNA vectors (such as retroviral, semliki forest virus, sindbis virus vectors).

Ribozymes may be used as diagnostic tools to examine genetic drift and mutations within diseased cells. They can also be used to assess levels of the target RNA molecule. The close relationship between ribozyme activity and the structure of the target RNA allows the detection of mutations in any region of the molecule which alters the base-pairing and three-dimensional structure of the target RNA. By using multiple ribozymes, one may map nucleotide changes which are important to RNA structure and function *in vitro*, as well as in cells and tissues. Cleavage of target RNAs with ribozymes may be used to inhibit gene expression and define the role (essentially) of specified gene products in the progression of disease. In this manner, other genetic targets may be defined as important mediators of the disease. These studies will lead to better treatment of the disease progression by affording the possibility of combinational therapies (*e.g.*, multiple ribozymes targeted to different genes, ribozymes coupled with known small molecule inhibitors, or intermittent treatment with combinations of ribozymes and/or other chemical or biological molecules). Other *in vitro* uses of ribozymes are well known in the art, and include detection of the presence of mRNA associated with an IL-5 related condition. Such RNA is detected by determining the presence of a cleavage product after treatment with a ribozyme using standard methodology.

PEPTIDE NUCLEIC ACIDS

In certain embodiments, the inventors contemplate the use of peptide nucleic acids (PNAs) in the practice of the methods of the invention. PNA is a DNA mimic in which the nucleobases are attached to a pseudopeptide backbone (Good and Nielsen, 1997). PNA is able to be utilized in a number methods that traditionally have used RNA or DNA. Often PNA sequences perform better in techniques than the corresponding RNA or DNA sequences and have utilities that are not inherent to RNA or DNA. A review of PNA including methods of making, characteristics of, and methods of using, is provided by Corey (1997) and is incorporated herein by reference. As such, in certain embodiments,

one may prepare PNA sequences that are complementary to one or more portions of the ACE mRNA sequence, and such PNA compositions may be used to regulate, alter, decrease, or reduce the translation of ACE-specific mRNA, and thereby alter the level of ACE activity in a host cell to which such PNA compositions have been administered.

5   PNAs have 2-aminoethyl-glycine linkages replacing the normal phosphodiester backbone of DNA (Nielsen *et al.*, 1991; Hanvey *et al.*, 1992; Hyrup and Nielsen, 1996; Neilsen, 1996). This chemistry has three important consequences: firstly, in contrast to DNA or phosphorothioate oligonucleotides, PNAs are neutral molecules; secondly, PNAs are achiral, which avoids the need to develop a stereoselective synthesis;

10   and thirdly, PNA synthesis uses standard Boc (Dueholm *et al.*, 1994) or Fmoc (Thomson *et al.*, 1995) protocols for solid-phase peptide synthesis, although other methods, including a modified Merrifield method, have been used (Christensen *et al.*, 1995).

PNA monomers or ready-made oligomers are commercially available from PerSeptive Biosystems (Framingham, MA). PNA syntheses by either Boc or Fmoc

15   protocols are straightforward using manual or automated protocols (Norton *et al.*, 1995). The manual protocol lends itself to the production of chemically modified PNAs or the simultaneous synthesis of families of closely related PNAs.

As with peptide synthesis, the success of a particular PNA synthesis will depend on the properties of the chosen sequence. For example, while in theory PNAs can

20   incorporate any combination of nucleotide bases, the presence of adjacent purines can lead to deletions of one or more residues in the product. In expectation of this difficulty, it is suggested that, in producing PNAs with adjacent purines, one should repeat the coupling of residues likely to be added inefficiently. This should be followed by the purification of PNAs by reverse-phase high-pressure liquid chromatography (Norton *et al.*, 1995)

25   providing yields and purity of product similar to those observed during the synthesis of peptides.

Modifications of PNAs for a given application may be accomplished by coupling amino acids during solid-phase synthesis or by attaching compounds that contain a carboxylic acid group to the exposed N-terminal amine. Alternatively, PNAs can be

modified after synthesis by coupling to an introduced lysine or cysteine. The ease with which PNAs can be modified facilitates optimization for better solubility or for specific functional requirements. Once synthesized, the identity of PNAs and their derivatives can be confirmed by mass spectrometry. Several studies have made and utilized modifications

5   of PNAs (Norton *et al.*, 1995; Haaima *et al.*, 1996; Stetsenko *et al.*, 1996; Petersen *et al.*, 1995; Ulmann *et al.*, 1996; Koch *et al.*, 1995; Orum *et al.*, 1995; Footer *et al.*, 1996; Griffith *et al.*, 1995; Kremsky *et al.*, 1996; Pardridge *et al.*, 1995; Boffa *et al.*, 1995; Landsdorp *et al.*, 1996; Gambacorti-Passerini *et al.*, 1996; Armitage *et al.*, 1997; Seeger *et al.*, 1997; Ruskowski *et al.*, 1997). U.S. Patent No. 5,700,922 discusses PNA-DNA-PNA

10 chimeric molecules and their uses in diagnostics, modulating protein in organisms, and treatment of conditions susceptible to therapeutics.

In contrast to DNA and RNA, which contain negatively charged linkages, the PNA backbone is neutral. In spite of this dramatic alteration, PNAs recognize complementary DNA and RNA by Watson-Crick pairing (Egholm *et al.*, 1993), validating

15 the initial modeling by Nielsen *et al.* (1991). PNAs lack 3' to 5' polarity and can bind in either parallel or antiparallel fashion, with the antiparallel mode being preferred (Egholm *et al.*, 1993).

Hybridization of DNA oligonucleotides to DNA and RNA is destabilized by electrostatic repulsion between the negatively charged phosphate backbones of the

20 complementary strands. By contrast, the absence of charge repulsion in PNA-DNA or PNA-RNA duplexes increases the melting temperature (T_m) and reduces the dependence of T_m on the concentration of mono- or divalent cations (Nielsen *et al.*, 1991). The enhanced rate and affinity of hybridization are significant because they are responsible for the surprising ability of PNAs to perform strand invasion of complementary sequences within

25 relaxed double-stranded DNA. In addition, the efficient hybridization at inverted repeats suggests that PNAs can recognize secondary structure effectively within double-stranded DNA. Enhanced recognition also occurs with PNAs immobilized on surfaces, and Wang *et al.* have shown that support-bound PNAs can be used to detect hybridization events (Wang *et al.*, 1996).

One might expect that tight binding of PNAs to complementary sequences would also increase binding to similar (but not identical) sequences, reducing the sequence specificity of PNA recognition. As with DNA hybridization, however, selective recognition can be achieved by balancing oligomer length and incubation temperature.

5   Moreover, selective hybridization of PNAs is encouraged by PNA-DNA hybridization being less tolerant of base mismatches than DNA-DNA hybridization. For example, a single mismatch within a 16 bp PNA-DNA duplex can reduce the T_m by up to 15°C (Egholm et al., 1993). This high level of discrimination has allowed the development of several PNA-based strategies for the analysis of point mutations (Wang et al., 1996;

10   Carlsson et al., 1996; Thiede et al., 1996; Webb and Hurskainen, 1996; Perry-O'Keefe et al., 1996).

High-affinity binding provides clear advantages for molecular recognition and the development of new applications for PNAs. For example, 11-13 nucleotide PNAs inhibit the activity of telomerase, a ribonucleo-protein that extends telomere ends using an

15   essential RNA template, while the analogous DNA oligomers do not (Norton et al., 1996).

Neutral PNAs are more hydrophobic than analogous DNA oligomers, and this can lead to difficulty solubilizing them at neutral pH, especially if the PNAs have a high purine content or if they have the potential to form secondary structures. Their solubility can be enhanced by attaching one or more positive charges to the PNA termini

20   (Nielsen et al., 1991).

Findings by Allfrey and colleagues suggest that strand invasion will occur spontaneously at sequences within chromosomal DNA (Boffa et al., 1995; Boffa et al., 1996). These studies targeted PNAs to triplet repeats of the nucleotides CAG and used this recognition to purify transcriptionally active DNA (Boffa et al., 1995) and to inhibit

25   transcription (Boffa et al., 1996). This result suggests that if PNAs can be delivered within cells then they will have the potential to be general sequence-specific regulators of gene expression. Studies and reviews concerning the use of PNAs as antisense and anti-gene agents include Nielsen et al. (1993b), Hanvey et al. (1992), and Good and Nielsen (1997).

Koppelhus *et al.* (1997) have used PNAs to inhibit HIV-1 inverse transcription, showing that PNAs may be used for antiviral therapies.

Methods of characterizing the antisense binding properties of PNAs are discussed in Rose (1993) and Jensen *et al.* (1997). Rose uses capillary gel electrophoresis to determine binding of PNAs to their complementary oligonucleotide, measuring the relative binding kinetics and stoichiometry. Similar types of measurements were made by Jensen *et al.* using BIAcore™ technology.

Other applications of PNAs include use in DNA strand invasion (Nielsen *et al.*, 1991), antisense inhibition (Hanvey *et al.*, 1992), mutational analysis (Orum *et al.*, 1993), enhancers of transcription (Mollegaard *et al.*, 1994), nucleic acid purification (Orum *et al.*, 1995), isolation of transcriptionally active genes (Boffa *et al.*, 1995), blocking of transcription factor binding (Vickers *et al.*, 1995), genome cleavage (Veselkov *et al.*, 1996), biosensors (Wang *et al.*, 1996), *in situ* hybridization (Thisted *et al.*, 1996), and in a alternative to Southern blotting (Perry-O'Keefe, 1996).

POLYPEPTIDE COMPOSITIONS

The present invention, in other aspects, provides polypeptide compositions. Generally, a polypeptide of the invention will be an isolated polypeptide (or an epitope, variant, or active fragment thereof) derived from a mammalian species. Preferably, the polypeptide is encoded by a polynucleotide sequence disclosed herein or a sequence which hybridizes under moderately stringent conditions to a polynucleotide sequence disclosed herein. Alternatively, the polypeptide may be defined as a polypeptide which comprises a contiguous amino acid sequence from an amino acid sequence disclosed herein, or which polypeptide comprises an entire amino acid sequence disclosed herein.

In the present invention, a polypeptide composition is also understood to comprise one or more polypeptides that are immunologically reactive with antibodies generated against a polypeptide of the invention, particularly a polypeptide having the amino acid sequence disclosed in SEQ ID NO: 786, 787, 791, 793, 795, 797-799, 806, 809,

1670-1675, or to active fragments, or to variants or biological functional equivalents thereof.

Likewise, a polypeptide composition of the present invention is understood to comprise one or more polypeptides that are capable of eliciting antibodies that are
5   immunologically reactive with one or more polypeptides encoded by one or more contiguous nucleic acid sequences contained in SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224,
10   226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676 or to active fragments, or to variants thereof, or to one or more nucleic acid sequences which hybridize to one or more of these sequences under conditions of moderate to high stringency. Particularly
15   illustrative polypeptides include the amino acid sequences disclosed in SEQ ID NO: 786, 787, 791, 793, 795, 797-799, 806, 809, 827 and 1670-1675..

As used herein, an active fragment of a polypeptide includes a whole or a portion of a polypeptide which is modified by conventional techniques, *e.g.*, mutagenesis, or by addition, deletion, or substitution, but which active fragment exhibits substantially
20   the same structure function, antigenicity, etc., as a polypeptide as described herein.

In certain illustrative embodiments, the polypeptides of the invention will comprise at least an immunogenic portion of a lung tumor protein or a variant thereof, as described herein. As noted above, a " lung tumor protein" is a protein that is expressed by lung tumor cells. Proteins that are lung tumor proteins also react detectably within an
25   immunoassay (such as an ELISA) with antisera from a patient with lung cancer. Polypeptides as described herein may be of any length. Additional sequences derived from the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a lung

5   tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

10   Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they

15   specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native lung tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full

20   length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual,* Cold Spring Harbor Laboratory, 1988. For

25   example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, ^{125}I-labeled Protein A.

As noted above, a composition may comprise a variant of a native lung tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native lung tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished.

5 In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or

10 antisera as described herein. Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants in which a small portion (*e.g.,* 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein.

15 Polypeptide variants encompassed by the present invention include those exhibiting at least about 70%, 75%, 80%, 85%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, or 99% or more identity (determined as described above) to the polypeptides disclosed herein.

Preferably, a variant contains conservative substitutions. A "conservative

20 substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydropathic nature of the polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of

25 the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative

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changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or alternatively, contain nonconservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five

5 amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydropathic nature of the polypeptide.

As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein, which co-translationally or post-translationally directs

10 transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (*e.g.*, poly-His), or to enhance binding of the polypeptide to a solid support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known

15 techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells

20 include prokaryotes, yeast, and higher eukaryotic cells, such as mammalian cells and plant cells. Preferably, the host cells employed are *E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to

25 a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having less than about 100 amino acids, and generally less than about 50 amino acids, may also be generated by synthetic means, using

techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. *See* Merrifield, *J. Am. Chem. Soc. 85*:2149-2146, 1963.

5   Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one

10   polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both immunological and

15   expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

Fusion proteins may generally be prepared using standard techniques,

20   including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide components may be assembled separately, and ligated into an appropriate expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide

25   linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

A peptide linker sequence may be employed to separate the first and second polypeptide components by a distance sufficient to ensure that each polypeptide folds into

its secondary and tertiary structures. Such a peptide linker sequence is incorporated into the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could

5   interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea *et*

10   *al., Gene 40*:39-46, 1985; Murphy *et al., Proc. Natl. Acad. Sci. USA 83*:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not required when the first and second polypeptides have non-essential N-terminal amino acid regions that can be used to separate the functional domains and prevent steric interference.

15   The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

20   Fusion proteins are also provided. Such proteins comprise a polypeptide as described herein together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see*, for example, Stoute *et al. New Engl. J. Med., 336*:86-91, 1997).

25   Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium Haemophilus influenza B (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.,* the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a

Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein

5   from influenzae virus, NS1 (hemaglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known

10   as amidase LYTA (encoded by the LytA gene; *Gene 43*:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion

15   proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see Biotechnology 10*:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

20   In general, polypeptides (including fusion proteins) and polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about

25   95% pure and most preferably at least about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

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BINDING AGENTS

The present invention further provides agents, such as antibodies and antigen-binding fragments thereof, that specifically bind to a lung tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a

5   lung tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a lung tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The

10   binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the present invention, when the binding constant for complex formation exceeds about 10^3 L/mol. The binding constant may be determined using methods well known in the art.

15   Binding agents may be further capable of differentiating between patients with and without a cancer, such as lung cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a lung tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal indicating the absence of the disease in

20   at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (*e.g.,* blood, sera, sputum, urine and/or tumor biopsies) from patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples

25   with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an

RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. *See, e.g.,* Harlow and Lane, *Antibodies: A Laboratory Manual,* Cold Spring Harbor Laboratory, 1988. In

5   general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (*e.g.,* mice, rats, rabbits, sheep or

10   goats). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more

15   booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.*

20   *6*:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (*i.e.,* reactivity with the polypeptide of interest). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell

25   fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection.

After a sufficient time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include ^{90}Y, ^{123}I, ^{125}I, ^{131}I, ^{186}Re, ^{188}Re, ^{211}At, and ^{212}Bi. Preferred drugs include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diptheria toxin, cholera toxin, gelonin, Pseudomonas exotoxin, Shigella toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (*e.g.*, covalently bonded) to a suitable monoclonal antibody either directly or indirectly (*e.g.*, via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent

capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl group containing a good leaving group (*e.g.*, a halide) on the other.

5   Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an agent or an antibody, and thus increase the coupling efficiency. An increase in chemical reactivity

10   may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group.

15   Coupling may be effected, for example, through amino groups, carboxyl groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell *et al.*

Where a therapeutic agent is more potent when free from the antibody portion of the immunoconjugates of the present invention, it may be desirable to use a

20   linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler), by irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter *et al.*), by hydrolysis of derivatized amino

25   acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn *et al.*), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell *et al.*), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler *et al.*).

It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In

another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one agent may be coupled directly to an antibody molecule, or linkers that provide multiple sites for attachment can

5   be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato *et al.*), peptides and polysaccharides such as aminodextran (*e.g.*, U.S. Patent No. 4,699,784, to Shih *et al.*). A carrier may also

10   bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that

15   include those containing nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison *et al.* discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and immunoconjugates may be used. Typically, administration will be intravenous,

20   intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T

25   cells specific for a lung tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the Isolex™ System, available from

Nexell Therapeutics, Inc. (Irvine, CA; see also U.S. Patent No. 5,240,856; U.S. Patent No. 5,215,926; WO 89/06280; WO 91/16116 and WO 92/07243). Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

T cells may be stimulated with a lung tumor polypeptide, polynucleotide encoding a lung tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a lung tumor polypeptide or polynucleotide is present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a lung tumor polypeptide if the T cells specifically proliferate, secrete cytokines or kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation, compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen *et al.*, *Cancer Res.* *54*:1065-1070, 1994. Alternatively, detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by measuring an increased rate of DNA synthesis (*e.g.*, by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a lung tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (*e.g.*, TNF or IFN-γ) is indicative of T cell activation (*see* Coligan *et al.*, Current Protocols in Immunology, vol. 1, Wiley Interscience (Greene 1998)). T cells that have been activated in response to a lung tumor polypeptide, polynucleotide or polypeptide-expressing APC may be CD4^{+} and/or CD8^{+}. Lung tumor protein-specific T cells may be expanded using standard techniques. Within preferred embodiments, the T

cells are derived from a patient, a related donor or an unrelated donor, and are administered to the patient following stimulation and expansion.

For therapeutic purposes, $CD4^+$ or $CD8^+$ T cells that proliferate in response to a lung tumor polypeptide, polynucleotide or APC can be expanded in number either 5 *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a lung tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a lung tumor polypeptide. Alternatively, one or more T cells that proliferate in 10 the presence of a lung tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

PHARMACEUTICAL COMPOSITIONS

In additional embodiments, the present invention concerns formulation of one or more of the polynucleotide, polypeptide, T-cell and/or antibody compositions 15 disclosed herein in pharmaceutically-acceptable solutions for administration to a cell or an animal, either alone, or in combination with one or more other modalities of therapy.

It will also be understood that, if desired, the nucleic acid segment, RNA, DNA or PNA compositions that express a polypeptide as disclosed herein may be administered in combination with other agents as well, such as, *e.g.*, other proteins or 20 polypeptides or various pharmaceutically-active agents. In fact, there is virtually no limit to other components that may also be included, given that the additional agents do not cause a significant adverse effect upon contact with the target cells or host tissues. The compositions may thus be delivered along with various other agents as required in the particular instance. Such compositions may be purified from host cells or other biological 25 sources, or alternatively may be chemically synthesized as described herein. Likewise, such compositions may further comprise substituted or derivatized RNA or DNA compositions.

Formulation of pharmaceutically-acceptable excipients and carrier solutions is well-known to those of skill in the art, as is the development of suitable dosing and treatment regimens for using the particular compositions described herein in a variety of treatment regimens, including *e.g.,* oral, parenteral, intravenous, intranasal, and
5   intramuscular administration and formulation.

1.   ORAL DELIVERY

In certain applications, the pharmaceutical compositions disclosed herein may be delivered *via* oral administration to an animal. As such, these compositions may be formulated with an inert diluent or with an assimilable edible carrier, or they may be
10   enclosed in hard- or soft-shell gelatin capsule, or they may be compressed into tablets, or they may be incorporated directly with the food of the diet.

The active compounds may even be incorporated with excipients and used in the form of ingestible tablets, buccal tables, troches, capsules, elixirs, suspensions, syrups, wafers, and the like (Mathiowitz *et al.,* 1997; Hwang *et al.,* 1998; U. S. Patent
15   5,641,515; U. S. Patent 5,580,579 and U. S. Patent 5,792,451, each specifically incorporated herein by reference in its entirety). The tablets, troches, pills, capsules and the like may also contain the following: a binder, as gum tragacanth, acacia, cornstarch, or gelatin; excipients, such as dicalcium phosphate; a disintegrating agent, such as corn starch, potato starch, alginic acid and the like; a lubricant, such as magnesium stearate; and a
20   sweetening agent, such as sucrose, lactose or saccharin may be added or a flavoring agent, such as peppermint, oil of wintergreen, or cherry flavoring. When the dosage unit form is a capsule, it may contain, in addition to materials of the above type, a liquid carrier. Various other materials may be present as coatings or to otherwise modify the physical form of the dosage unit. For instance, tablets, pills, or capsules may be coated with shellac, sugar, or
25   both. A syrup of elixir may contain the active compound sucrose as a sweetening agent methyl and propylparabens as preservatives, a dye and flavoring, such as cherry or orange flavor. Of course, any material used in preparing any dosage unit form should be pharmaceutically pure and substantially non-toxic in the amounts employed. In addition,

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the active compounds may be incorporated into sustained-release preparation and formulations.

Typically, these formulations may contain at least about 0.1% of the active compound or more, although the percentage of the active ingredient(s) may, of course, be 5 varied and may conveniently be between about 1 or 2% and about 60% or 70% or more of the weight or volume of the total formulation. Naturally, the amount of active compound(s) in each therapeutically useful composition may be prepared is such a way that a suitable dosage will be obtained in any given unit dose of the compound. Factors such as solubility, bioavailability, biological half-life, route of administration, product shelf 10 life, as well as other pharmacological considerations will be contemplated by one skilled in the art of preparing such pharmaceutical formulations, and as such, a variety of dosages and treatment regimens may be desirable.

For oral administration the compositions of the present invention may alternatively be incorporated with one or more excipients in the form of a mouthwash, 15 dentifrice, buccal tablet, oral spray, or sublingual orally-administered formulation. For example, a mouthwash may be prepared incorporating the active ingredient in the required amount in an appropriate solvent, such as a sodium borate solution (Dobell's Solution). Alternatively, the active ingredient may be incorporated into an oral solution such as one containing sodium borate, glycerin and potassium bicarbonate, or dispersed in a dentifrice, 20 or added in a therapeutically-effective amount to a composition that may include water, binders, abrasives, flavoring agents, foaming agents, and humectants. Alternatively the compositions may be fashioned into a tablet or solution form that may be placed under the tongue or otherwise dissolved in the mouth.

2. INJECTABLE DELIVERY

25 In certain circumstances it will be desirable to deliver the pharmaceutical compositions disclosed herein parenterally, intravenously, intramuscularly, or even intraperitoneally as described in U. S. Patent 5,543,158; U. S. Patent 5,641,515 and U. S. Patent 5,399,363 (each specifically incorporated herein by reference in its entirety).

Solutions of the active compounds as free base or pharmacologically acceptable salts may be prepared in water suitably mixed with a surfactant, such as hydroxypropylcellulose. Dispersions may also be prepared in glycerol, liquid polyethylene glycols, and mixtures thereof and in oils. Under ordinary conditions of storage and use, these preparations

5   contain a preservative to prevent the growth of microorganisms.

The pharmaceutical forms suitable for injectable use include sterile aqueous solutions or dispersions and sterile powders for the extemporaneous preparation of sterile injectable solutions or dispersions (U. S. Patent 5,466,468, specifically incorporated herein by reference in its entirety). In all cases the form must be sterile and must be fluid to the

10   extent that easy syringability exists. It must be stable under the conditions of manufacture and storage and must be preserved against the contaminating action of microorganisms, such as bacteria and fungi. The carrier can be a solvent or dispersion medium containing, for example, water, ethanol, polyol (e.g., glycerol, propylene glycol, and liquid polyethylene glycol, and the like), suitable mixtures thereof, and/or vegetable oils. Proper

15   fluidity may be maintained, for example, by the use of a coating, such as lecithin, by the maintenance of the required particle size in the case of dispersion and by the use of surfactants. The prevention of the action of microorganisms can be facilitated by various antibacterial and antifungal agents, for example, parabens, chlorobutanol, phenol, sorbic acid, thimerosal, and the like. In many cases, it will be preferable to include isotonic

20   agents, for example, sugars or sodium chloride. Prolonged absorption of the injectable compositions can be brought about by the use in the compositions of agents delaying absorption, for example, aluminum monostearate and gelatin.

For parenteral administration in an aqueous solution, for example, the solution should be suitably buffered if necessary and the liquid diluent first rendered

25   isotonic with sufficient saline or glucose. These particular aqueous solutions are especially suitable for intravenous, intramuscular, subcutaneous and intraperitoneal administration. In this connection, a sterile aqueous medium that can be employed will be known to those of skill in the art in light of the present disclosure. For example, one dosage may be dissolved in 1 ml of isotonic NaCl solution and either added to 1000 ml of hypodermoclysis fluid or

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injected at the proposed site of infusion, (see for example, "Remington's Pharmaceutical Sciences" 15th Edition, pages 1035-1038 and 1570-1580). Some variation in dosage will necessarily occur depending on the condition of the subject being treated. The person responsible for administration will, in any event, determine the appropriate dose for the individual subject. Moreover, for human administration, preparations should meet sterility, pyrogenicity, and the general safety and purity standards as required by FDA Office of Biologics standards.

Sterile injectable solutions are prepared by incorporating the active compounds in the required amount in the appropriate solvent with various of the other ingredients enumerated above, as required, followed by filtered sterilization. Generally, dispersions are prepared by incorporating the various sterilized active ingredients into a sterile vehicle which contains the basic dispersion medium and the required other ingredients from those enumerated above. In the case of sterile powders for the preparation of sterile injectable solutions, the preferred methods of preparation are vacuum-drying and freeze-drying techniques which yield a powder of the active ingredient plus any additional desired ingredient from a previously sterile-filtered solution thereof.

The compositions disclosed herein may be formulated in a neutral or salt form. Pharmaceutically-acceptable salts, include the acid addition salts (formed with the free amino groups of the protein) and which are formed with inorganic acids such as, for example, hydrochloric or phosphoric acids, or such organic acids as acetic, oxalic, tartaric, mandelic, and the like. Salts formed with the free carboxyl groups can also be derived from inorganic bases such as, for example, sodium, potassium, ammonium, calcium, or ferric hydroxides, and such organic bases as isopropylamine, trimethylamine, histidine, procaine and the like. Upon formulation, solutions will be administered in a manner compatible with the dosage formulation and in such amount as is therapeutically effective. The formulations are easily administered in a variety of dosage forms such as injectable solutions, drug-release capsules, and the like.

As used herein, "carrier" includes any and all solvents, dispersion media, vehicles, coatings, diluents, antibacterial and antifungal agents, isotonic and absorption

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delaying agents, buffers, carrier solutions, suspensions, colloids, and the like. The use of such media and agents for pharmaceutical active substances is well known in the art. Except insofar as any conventional media or agent is incompatible with the active ingredient, its use in the therapeutic compositions is contemplated. Supplementary active
5   ingredients can also be incorporated into the compositions.

The phrase "pharmaceutically-acceptable" refers to molecular entities and compositions that do not produce an allergic or similar untoward reaction when administered to a human. The preparation of an aqueous composition that contains a protein as an active ingredient is well understood in the art. Typically, such compositions
10   are prepared as injectables, either as liquid solutions or suspensions; solid forms suitable for solution in, or suspension in, liquid prior to injection can also be prepared. The preparation can also be emulsified.

3.   NASAL DELIVERY

In certain embodiments, the pharmaceutical compositions may be delivered
15   by intranasal sprays, inhalation, and/or other aerosol delivery vehicles. Methods for delivering genes, nucleic acids, and peptide compositions directly to the lungs *via* nasal aerosol sprays has been described *e.g.*, in U. S. Patent 5,756,353 and U. S. Patent 5,804,212 (each specifically incorporated herein by reference in its entirety). Likewise, the delivery of drugs using intranasal microparticle resins (Takenaga *et al.*, 1998) and lysophosphatidyl-
20   glycerol compounds (U. S. Patent 5,725,871, specifically incorporated herein by reference in its entirety) are also well-known in the pharmaceutical arts. Likewise, transmucosal drug delivery in the form of a polytetrafluoroetheylene support matrix is described in U. S. Patent 5,780,045 (specifically incorporated herein by reference in its entirety).

4.   LIPOSOME-, NANOCAPSULE-, AND MICROPARTICLE-MEDIATED DELIVERY

25   In certain embodiments, the inventors contemplate the use of liposomes, nanocapsules, microparticles, microspheres, lipid particles, vesicles, and the like, for the introduction of the compositions of the present invention into suitable host cells. In

particular, the compositions of the present invention may be formulated for delivery either encapsulated in a lipid particle, a liposome, a vesicle, a nanosphere, or a nanoparticle or the like.

Such formulations may be preferred for the introduction of pharmaceutically-acceptable formulations of the nucleic acids or constructs disclosed herein. The formation and use of liposomes is generally known to those of skill in the art (see for example, Couvreur et al., 1977; Couvreur, 1988; Lasic, 1998; which describes the use of liposomes and nanocapsules in the targeted antibiotic therapy for intracellular bacterial infections and diseases). Recently, liposomes were developed with improved serum stability and circulation half-times (Gabizon and Papahadjopoulos, 1988; Allen and Choun, 1987; U. S. Patent 5,741,516, specifically incorporated herein by reference in its entirety). Further, various methods of liposome and liposome like preparations as potential drug carriers have been reviewed (Takakura, 1998; Chandran et al., 1997; Margalit, 1995; U. S. Patent 5,567,434; U. S. Patent 5,552,157; U. S. Patent 5,565,213; U. S. Patent 5,738,868 and U. S. Patent 5,795,587, each specifically incorporated herein by reference in its entirety).

Liposomes have been used successfully with a number of cell types that are normally resistant to transfection by other procedures including T cell suspensions, primary hepatocyte cultures and PC 12 cells (Renneisen et al., 1990; Muller et al., 1990). In addition, liposomes are free of the DNA length constraints that are typical of viral-based delivery systems. Liposomes have been used effectively to introduce genes, drugs (Heath and Martin, 1986; Heath et al., 1986; Balazsovits et al., 1989; Fresta and Puglisi, 1996), radiotherapeutic agents (Pikul et al., 1987), enzymes (Imaizumi et al., 1990a; Imaizumi et al., 1990b), viruses (Faller and Baltimore, 1984), transcription factors and allosteric effectors (Nicolau and Gersonde, 1979) into a variety of cultured cell lines and animals. In addition, several successful clinical trails examining the effectiveness of liposome-mediated drug delivery have been completed (Lopez-Berestein et al., 1985a; 1985b; Coune, 1988; Sculier et al., 1988). Furthermore, several studies suggest that the use of

liposomes is not associated with autoimmune responses, toxicity or gonadal localization after systemic delivery (Mori and Fukatsu, 1992).

Liposomes are formed from phospholipids that are dispersed in an aqueous medium and spontaneously form multilamellar concentric bilayer vesicles (also termed

5   multilamellar vesicles (MLVs). MLVs generally have diameters of from 25 nm to 4 μm. Sonication of MLVs results in the formation of small unilamellar vesicles (SUVs) with diameters in the range of 200 to 500 Å, containing an aqueous solution in the core.

Liposomes bear resemblance to cellular membranes and are contemplated for use in connection with the present invention as carriers for the peptide compositions.

10 They are widely suitable as both water- and lipid-soluble substances can be entrapped, *i.e.* in the aqueous spaces and within the bilayer itself, respectively. It is possible that the drug-bearing liposomes may even be employed for site-specific delivery of active agents by selectively modifying the liposomal formulation.

In addition to the teachings of Couvreur *et al.* (1977; 1988), the following

15 information may be utilized in generating liposomal formulations. Phospholipids can form a variety of structures other than liposomes when dispersed in water, depending on the molar ratio of lipid to water. At low ratios the liposome is the preferred structure. The physical characteristics of liposomes depend on pH, ionic strength and the presence of divalent cations. Liposomes can show low permeability to ionic and polar substances, but

20 at elevated temperatures undergo a phase transition which markedly alters their permeability. The phase transition involves a change from a closely packed, ordered structure, known as the gel state, to a loosely packed, less-ordered structure, known as the fluid state. This occurs at a characteristic phase-transition temperature and results in an increase in permeability to ions, sugars and drugs.

25   In addition to temperature, exposure to proteins can alter the permeability of liposomes. Certain soluble proteins, such as cytochrome c, bind, deform and penetrate the bilayer, thereby causing changes in permeability. Cholesterol inhibits this penetration of proteins, apparently by packing the phospholipids more tightly. It is contemplated that the

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most useful liposome formations for antibiotic and inhibitor delivery will contain cholesterol.

The ability to trap solutes varies between different types of liposomes. For example, MLVs are moderately efficient at trapping solutes, but SUVs are extremely inefficient. SUVs offer the advantage of homogeneity and reproducibility in size distribution, however, and a compromise between size and trapping efficiency is offered by large unilamellar vesicles (LUVs). These are prepared by ether evaporation and are three to four times more efficient at solute entrapment than MLVs.

In addition to liposome characteristics, an important determinant in entrapping compounds is the physicochemical properties of the compound itself. Polar compounds are trapped in the aqueous spaces and nonpolar compounds bind to the lipid bilayer of the vesicle. Polar compounds are released through permeation or when the bilayer is broken, but nonpolar compounds remain affiliated with the bilayer unless it is disrupted by temperature or exposure to lipoproteins. Both types show maximum efflux rates at the phase transition temperature.

Liposomes interact with cells *via* four different mechanisms: endocytosis by phagocytic cells of the reticuloendothelial system such as macrophages and neutrophils; adsorption to the cell surface, either by nonspecific weak hydrophobic or electrostatic forces, or by specific interactions with cell-surface components; fusion with the plasma cell membrane by insertion of the lipid bilayer of the liposome into the plasma membrane, with simultaneous release of liposomal contents into the cytoplasm; and by transfer of liposomal lipids to cellular or subcellular membranes, or vice versa, without any association of the liposome contents. It often is difficult to determine which mechanism is operative and more than one may operate at the same time.

The fate and disposition of intravenously injected liposomes depend on their physical properties, such as size, fluidity, and surface charge. They may persist in tissues for h or days, depending on their composition, and half lives in the blood range from min to several h. Larger liposomes, such as MLVs and LUVs, are taken up rapidly by phagocytic cells of the reticuloendothelial system, but physiology of the circulatory system restrains

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the exit of such large species at most sites. They can exit only in places where large openings or pores exist in the capillary endothelium, such as the sinusoids of the liver or spleen. Thus, these organs are the predominate site of uptake. On the other hand, SUVs show a broader tissue distribution but still are sequestered highly in the liver and spleen. In general, this *in vivo* behavior limits the potential targeting of liposomes to only those organs and tissues accessible to their large size. These include the blood, liver, spleen, bone marrow, and lymphoid organs.

Targeting is generally not a limitation in terms of the present invention. However, should specific targeting be desired, methods are available for this to be accomplished. Antibodies may be used to bind to the liposome surface and to direct the antibody and its drug contents to specific antigenic receptors located on a particular cell-type surface. Carbohydrate determinants (glycoprotein or glycolipid cell-surface components that play a role in cell-cell recognition, interaction and adhesion) may also be used as recognition sites as they have potential in directing liposomes to particular cell types. Mostly, it is contemplated that intravenous injection of liposomal preparations would be used, but other routes of administration are also conceivable.

Alternatively, the invention provides for pharmaceutically-acceptable nanocapsule formulations of the compositions of the present invention. Nanocapsules can generally entrap compounds in a stable and reproducible way (Henry-Michelland *et al.*, 1987; Quintanar-Guerrero *et al.*, 1998; Douglas *et al.*, 1987). To avoid side effects due to intracellular polymeric overloading, such ultrafine particles (sized around 0.1 μm) should be designed using polymers able to be degraded *in vivo*. Biodegradable polyalkyl-cyanoacrylate nanoparticles that meet these requirements are contemplated for use in the present invention. Such particles may be are easily made, as described (Couvreur *et al.*, 1980; 1988; zur Muhlen *et al.*, 1998; Zambaux *et al.* 1998; Pinto-Alphandry *et al.*, 1995 and U. S. Patent 5,145,684, specifically incorporated herein by reference in its entirety).

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IMMUNOGENIC COMPOSITIONS

In certain preferred embodiments of the present invention, immunogenic compositions, or vaccines, are provided. The immunogenic compositions will generally comprise one or more pharmaceutical compositions, such as those discussed above, in

5 combination with an immunostimulant. An immunostimulant may be any substance that enhances or potentiates an immune response (antibody and/or cell-mediated) to an exogenous antigen. Examples of immunostimulants include adjuvants, biodegradable microspheres (*e.g.,* polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.,* Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is

10 generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and immunogenic compositions, or vaccines, within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present,

15 either incorporated into a fusion polypeptide or as a separate compound, within the composition.

Illustrative immunogenic compositions may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ.* As noted above, the DNA may be present within any of a variety of delivery systems

20 known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* *15*:143-198, 1998, and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a

25 suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (*e.g.,* vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-

pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch *et al.*, *Proc. Natl. Acad. Sci. USA 86*:317-321, 1989; Flexner *et al.*, *Ann. N.Y. Acad. Sci. 569*:86-103, 1989; Flexner *et al.*, *Vaccine 8*:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent

5   No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques 6*:616-627, 1988; Rosenfeld *et al.*, *Science 252*:431-434, 1991; Kolls *et al.*, *Proc. Natl. Acad. Sci. USA 91*:215-219, 1994; Kass-Eisler *et al.*, *Proc. Natl. Acad. Sci. USA 90*:11498-11502, 1993; Guzman *et al.*, *Circulation 88*:2838-2848, 1993; and Guzman *et al.*, *Cir. Res. 73*:1202-1207, 1993. Techniques for incorporating DNA into such expression

10   systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer *et al.*, *Science 259*:1745-1749, 1993 and reviewed by Cohen, *Science 259*:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells. It will be apparent that an immunogenic composition may comprise both a

15   polynucleotide and a polypeptide component. Such immunogenic compositions may provide for an enhanced immune response.

It will be apparent that an immunogenic composition may contain pharmaceutically acceptable salts of the polynucleotides and polypeptides provided herein. Such salts may be prepared from pharmaceutically acceptable non-toxic bases, including

20   organic bases (*e.g.*, salts of primary, secondary and tertiary amines and basic amino acids) and inorganic bases (*e.g.*, sodium, potassium, lithium, ammonium, calcium and magnesium salts).

While any suitable carrier known to those of ordinary skill in the art may be employed in the immunogenic compositions of this invention, the type of carrier will vary

25   depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral

administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (*e.g.,* polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of

5   this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268; 5,075,109; 5,928,647; 5,811,128; 5,820,883; 5,853,763; 5,814,344 and 5,942,252. One may also employ a carrier comprising the particulate-protein complexes described in U.S. Patent No. 5,928,647, which are capable of inducing a class I-restricted cytotoxic T lymphocyte responses in a host.

10   Such compositions may also comprise buffers (*e.g.,* neutral buffered saline or phosphate buffered saline), carbohydrates (*e.g.,* glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, bacteriostats, chelating agents such as EDTA or glutathione, adjuvants (*e.g.,* aluminum hydroxide), solutes that render the formulation isotonic, hypotonic or weakly hypertonic with the blood

15   of a recipient, suspending agents, thickening agents and/or preservatives. Alternatively, compositions of the present invention may be formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of immunostimulants may be employed in the immunogenic compositions of this invention. For example, an adjuvant may be included.

20   Most adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bortadella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and

25   Company, Inc., Rahway, NJ); AS-2 (SmithKline Beecham, Philadelphia, PA); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres;

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monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the immunogenic compositions provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the
5   Th1 type. High levels of Th1-type cytokines (*e.g.*, IFN-γ, TNFα, IL-2 and IL-12) tend to favor the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (*e.g.*, IL-4, IL-5, IL-6 and IL-10) tend to favor the induction of humoral immune responses. Following application of an immunogenic composition as provided herein, a patient will support an immune response that includes
10 Th1- and Th2-type responses. Within a preferred embodiment, in which a response is predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

15   Preferred adjuvants for use in eliciting a predominantly Th1-type response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt. MPL adjuvants are available from Corixa Corporation (Seattle, WA; *see* US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in
20 which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in WO 96/02555, WO 99/33488 and U.S. Patent Nos. 6,008,200 and 5,856,462. Immunostimulatory DNA sequences are also described, for example, by Sato *et al.*, *Science* 273:352, 1996. Another preferred adjuvant is a saponin, preferably QS21 (Aquila Biopharmaceuticals Inc.,
25 Framingham, MA), which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprise an oil-in-water

emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in WO 95/17210.

Other preferred adjuvants include Montanide ISA 720 (Seppic, France), SAF (Chiron, California, United States), ISCOMS (CSL), MF-59 (Chiron), the SBAS series of adjuvants (*e.g.,* SBAS-2 or SBAS-4, available from SmithKline Beecham, Rixensart, Belgium), Detox (Corixa, Hamilton, MT), RC-529 (Corixa, Hamilton, MT) and other aminoalkyl glucosaminide 4-phosphates (AGPs), such as those described in pending U.S. Patent Application Serial Nos. 08/853,826 and 09/074,720, the disclosures of which are incorporated herein by reference in their entireties.

Any immunogenic composition provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient. The compositions described herein may be administered as part of a sustained release formulation (*i.e.,* a formulation such as a capsule, sponge or gel (composed of polysaccharides, for example) that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology (*see, e.g.,* Coombes *et al., Vaccine 14*:1429-1438, 1996) and administered by, for example, oral, rectal or subcutaneous implantation, or by implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained within a reservoir surrounded by a rate controlling membrane.

Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. Such carriers include microparticles of poly(lactide-co-glycolide), polyacrylate, latex, starch, cellulose, dextran and the like. Other delayed-release carriers include supramolecular biovectors, which comprise a non-liquid hydrophilic core (*e.g.,* a cross-linked polysaccharide or oligosaccharide) and, optionally, an external layer comprising an amphiphilic compound, such as a phospholipid (*see e.g.,* U.S. Patent No. 5,151,254 and PCT applications WO 94/20078, WO/94/23701 and WO 96/06638). The amount of active compound contained within a sustained release formulation depends upon

the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and immunogenic compositions to facilitate production of an
5   antigen-specific immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se*
10   and/or to be immunologically compatible with the receiver (*i.e.,* matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells
15   or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature 392*:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med. 50*:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked
20   cytoplasmic processes (dendrites) visible *in vitro*), their ability to take up, process and present antigens with high efficiency and their ability to activate naïve T cell responses. Dendritic cells may, of course, be engineered to express specific cell-surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated by the present invention. As an alternative to
25   dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine, or immunogenic composition (*see* Zitvogel *et al., Nature Med. 4*:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph nodes, spleen,

skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNFα to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or

5   bone marrow may be differentiated into dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNFα, CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce differentiation, maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well characterized

10   phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fcγ receptor and mannose receptor. The mature phenotype is typically characterized by a lower expression of these markers, but a high expression of cell surface

15   molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (*e.g.,* CD54 and CD11) and costimulatory molecules (*e.g.,* CD40, CD80, CD86 and 4-1BB).

APCs may generally be transfected with a polynucleotide encoding a lung tumor protein (or portion or other variant thereof) such that the lung tumor polypeptide, or

20   an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition comprising such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic

25   cells, for example, may generally be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi *et al.*, *Immunology and cell Biology 75*:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the lung tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant

bacterium or viruses (*e.g.,* vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that provides T cell help (*e.g.,* a carrier molecule). Alternatively, a dendritic cell may be pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

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Immunogenic compositions and pharmaceutical compositions may be presented in unit-dose or multi-dose containers, such as sealed ampoules or vials. Such containers are preferably hermetically sealed to preserve sterility of the formulation until use. In general, formulations may be stored as suspensions, solutions or emulsions in oily or aqueous vehicles. Alternatively, an immunogenic or pharmaceutical composition may be stored in a freeze-dried condition requiring only the addition of a sterile liquid carrier immediately prior to use.

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CANCER THERAPY

In further aspects of the present invention, the compositions described herein may be used for immunotherapy of cancer, such as lung cancer. Within such methods, compositions are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and immunogenic compositions may be used to prevent the development of a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor. Pharmaceutical compositions and immunogenic compositions may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs. Administration may be by any suitable method, including administration by intravenous, intraperitoneal, intramuscular, subcutaneous, intranasal, intradermal, anal, vaginal, topical and oral routes.

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Within certain embodiments, immunotherapy may be active immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host

immune system to react against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides as provided herein).

Within other embodiments, immunotherapy may be passive immunotherapy, in which treatment involves the delivery of agents with established tumor-
5   immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as $CD8^+$ cytotoxic T lymphocytes and $CD4^+$ T-helper tumor-infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer
10 cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive immunotherapy. The polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above
15 and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use
20 intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein may be used to rapidly expand antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic, macrophage, monocyte, fibroblast and/or B cells, may be pulsed with
25 immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*.

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Studies have shown that cultured effector cells can be induced to grow in vivo and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see*, for example, Cheever *et al.*, *Immunological Reviews 157*:177, 1997).

5   Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

10   Routes and frequency of administration of the therapeutic compositions described herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and immunogenic compositions may be administered by injection (*e.g.*, intracutaneous, intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. 15 Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% 20 above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines, or immunogenic compositions, should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer 25 disease-free survival) in vaccinated patients as compared to non-vaccinated patients. In general, for compositions comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 25 µg to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such a response can be monitored by establishing an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial, or longer disease-free survival) in treated patients

5   as compared to non-treated patients. Increases in preexisting immune responses to a lung tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

10   **CANCER DETECTION AND DIAGNOSIS**

In general, a cancer may be detected in a patient based on the presence of one or more lung tumor proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, sputum urine and/or tumor biopsies) obtained from the patient. In other words, such proteins may be used as markers to indicate the

15   presence or absence of a cancer such as lung cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the presence or absence of a cancer. In general, a

20   lung tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. *See, e.g.*, Harlow and Lane, *Antibodies: A Laboratory Manual,* Cold Spring Harbor Laboratory, 1988. In

25   general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b) detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex.

5   Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent

10   with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding agent. Suitable polypeptides for use within such assays include full length lung tumor proteins and portions thereof to which the binding agent binds, as described above.

15   The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic

20   particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which

25   may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1

hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10 μg, and preferably about 100 ng to about 1 μg, is sufficient to immobilize an adequate amount of binding agent.

5   Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.,* Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.

More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20™ (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.,* incubation time) is a period of time that is sufficient to detect the presence of polypeptide within a sample obtained from an individual with lung cancer. Preferably, the contact time is

sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an

5   incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

10   The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of time. Unbound detection reagent is then removed and bound detection reagent is detected using the reporter group. The method employed for detecting

15   the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may

20   generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as lung cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred

25   embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered positive for the cancer. In an alternate preferred embodiment, the cut-off value is determined using a Receiver Operator Curve,

according to the method of Sackett *et al.*, *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value

5   for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the

10   false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the

15   immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the

20   sample. The sample migrates along the membrane through a region containing second binding agent and to the area of immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result.

25   In general, the amount of binding agent immobilized on the membrane is selected to generate a visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of

antibody immobilized on the membrane ranges from about 25 ng to about 1μg, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use
5   with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use lung tumor polypeptides to detect antibodies that bind to such polypeptides in a biological sample. The detection of such lung tumor protein specific antibodies may correlate with the
10   presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a lung tumor protein in a biological sample. Within certain methods, a biological sample comprising $CD4^+$ and/or $CD8^+$ T cells isolated from a patient is incubated with a lung tumor polypeptide, a polynucleotide encoding such a polypeptide
15   and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9
20   days (typically 4 days) at 37°C with polypeptide (*e.g.*, 5 - 25 μg/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of lung tumor polypeptide to serve as a control. For $CD4^+$ T cells, activation is preferably detected by evaluating proliferation of the T cells. For $CD8^+$ T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or
25   a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a lung tumor protein in a biological sample. For example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based

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assay to amplify a portion of a lung tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the lung tumor protein. The amplified cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly,

5   oligonucleotide probes that specifically hybridize to a polynucleotide encoding a lung tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%, preferably

10   at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a lung tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably, oligonucleotide primers and/or probes hybridize to a polynucleotide encoding a polypeptide described herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may

15   be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers comprise at least 10 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95,

20   97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 or 1676. Techniques for both PCR

25   based assays and hybridization assays are well known in the art (*see*, for example, Mullis *et al., Cold Spring Harbor Symp. Quant. Biol., 51*:263, 1987; Erlich ed., *PCR Technology*, Stockton Press, NY, 1989).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological

sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule, which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and from an individual who is

5 not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically considered positive.

In another embodiment, the compositions described herein may be used as markers for the progression of cancer. In this embodiment, assays as described above for

10 the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide(s) evaluated. For example, the assays may be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter performed as needed. In general, a cancer is progressing in those patients in whom the level of

15 polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding

20 agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

As noted above, to improve sensitivity, multiple lung tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for

25 different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

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DIAGNOSTIC KITS

The present invention further provides kits for use within any of the above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds, reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a lung tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a lung tumor protein in a biological sample. Such kits generally comprise at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a lung tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a lung tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

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EXAMPLE 1

IDENTIFICATION AND CHARACTERIZATION OF LUNG

TUMOR PROTEIN cDNAS

5   This Example illustrates the identification of cDNA molecules encoding

lung tumor proteins.

A.   Isolation of cDNA Sequences from Lung Adenocarcinoma Libraries using

Conventional cDNA Library Subtraction

A human lung adenocarcinoma cDNA expression library was constructed

10   from poly A$^+$ RNA from patient tissues (# 40031486) using a Superscript Plasmid System

for cDNA Synthesis and Plasmid Cloning kit (BRL Life Technologies, Gaithersburg, MD)

following the manufacturer's protocol.   Specifically, lung carcinoma tissues were

homogenized with polytron (Kinematica, Switzerland) and total RNA was extracted using

Trizol reagent (BRL Life Technologies) as directed by the manufacturer. The poly A$^+$

15   RNA was then purified using an oligo dT cellulose column as described in Sambrook et al.,

Molecular Cloning: A Laboratory Manual, Cold Spring Harbor Laboratories, Cold Spring

Harbor, NY, 1989. First-strand cDNA was synthesized using the NotI/Oligo-dT18 primer.

Double-stranded cDNA was synthesized, ligated with BstXI/EcoRI adaptors (Invitrogen,

San Diego, CA) and digested with NotI. Following size fractionation with cDNA size

20   fractionation columns (BRL Life Technologies), the cDNA was ligated into the BstXI/NotI

site of pcDNA3.1 (Invitrogen) and transformed into ElectroMax *E. coli* DH10B cells (BRL

Life Technologies) by electroporation. A total of 3 x 10^6 independent colonies were

generated.

Using the same procedure, a normal human cDNA expression library was

25   prepared from a panel of normal tissue specimens, including lung, liver, pancreas, skin,

kidney, brain and resting PBMC.

cDNA   library   subtraction   was   performed   using   the   above   lung

adenocarcinoma and normal tissue cDNA libraries, as described by Hara *et al.* (*Blood,*

84:189-199, 1994) with some modifications. Specifically, a lung adenocarcinoma-specific subtracted cDNA library was generated as follows. The normal tissue cDNA library (80 μg) was digested with BamHI and XhoI, followed by a filling-in reaction with DNA polymerase Klenow fragment. After phenol-chloroform extraction and ethanol

5   precipitation, the DNA was dissolved in 133 μl of H_2O, heat-denatured and mixed with 133 μl (133 μg) of Photoprobe biotin (Vector Laboratories, Burlingame, CA). As recommended by the manufacturer, the resulting mixture was irradiated with a 270 W sunlamp on ice for 20 minutes. Additional Photoprobe biotin (67 μl) was added and the biotinylation reaction was repeated. After extraction with butanol five times, the DNA was

10   ethanol-precipitated and dissolved in 23 μl H_2O. The resulting DNA, plus other highly redundant cDNA clones that were frequently recovered in previous lung subtractions formed the driver DNA.

To form the tracer DNA, 10 μg lung adenocarcinoma cDNA library was digested with NotI and SpeI, phenol chloroform extracted and passed through Chroma

15   spin-400 columns (Clontech, Palo Alto, CA). Typically, 5 μg of cDNA was recovered after the sizing column. Following ethanol precipitation, the tracer DNA was dissolved in 5 μl H_2O. Tracer DNA was mixed with 15 μl driver DNA and 20 μl of 2 x hybridization buffer (1.5 M NaCl/10 mM EDTA/50 mM HEPES pH 7.5/0.2% sodium dodecyl sulfate), overlaid with mineral oil, and heat-denatured completely. The sample was immediately

20   transferred into a 68 ^{0}C water bath and incubated for 20 hours (long hybridization [LH]). The reaction mixture was then subjected to a streptavidin treatment followed by phenol/chloroform extraction. This process was repeated three more times. Subtracted DNA was precipitated, dissolved in 12 μl H_2O, mixed with 8 μl driver DNA and 20 μl of 2 x hybridization buffer, and subjected to a hybridization at 68°C for 2 hours (short

25   hybridization [SH]). After removal of biotinylated double-stranded DNA, subtracted cDNA was ligated into NotI/SpeI site of chloramphenicol resistant pBCSK$^+$ (Stratagene, La Jolla, CA) and transformed into ElectroMax *E. coli* DH10B cells by electroporation to generate a lung adenocarcinoma specific subtracted cDNA library, referred to as LAT-S1

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Similarly, LAT-S2 was generated by including 23 genes that were over-expressed in the tracer as additional drivers.

A second human lung adenocarcinoma cDNA expression library was constructed using adenocarcinoma tissue from a second patient (# 86-66) and used to
5 prepare a second lung adenocarcinoma-specific subtracted cDNA library (referred to as LAT2-S2), as described above, using the same panel of normal tissues and the additional genes over-expressed in LAT-S1.

A third human metastatic lung adenocarcinoma library was constructed from a pool of two lung pleural effusions with lung and gastric adenocarcinoma origins.
10 The subtracted cDNA library, Mets-sub2 was generated as described above using the same panel of normal tissues. However, the Mets-sub3 subtracted library was constructed by including 51 additional genes as drivers. These 51 genes were recovered in Mets-sub2, representing over-expressed housekeeping genes in the testers. As a result, Mets-sub3 is more complexed and normalized.

15 A total of 16 cDNA fragments isolated from LAT-S1, 585 cDNA fragments isolated from LAT-S2, 568 cDNA clones from LAT2-S2, 15 cDNA clones from Mets-sub2 and 343 cDNA clones from Mets-sub3, described above, were colony PCR amplified and their mRNA expression levels in lung tumor, normal lung, and various other normal and tumor tissues were determined using microarray technology (Incyte, Palo Alto, CA).
20 Briefly, the PCR amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, reverse transcribed, and fluorescent-labeled cDNA probes were generated. The microarrays were probed with the labeled cDNA probes, the slides scanned and fluorescence intensity was measured. This intensity correlates with the hybridization
25 intensity. Seventy-three non-redundant cDNA clones, of which 42 were found to be unique, showed over-expression in lung tumors, with expression in normal tissues tested (lung, skin, lymph node, colon, liver, pancreas, breast, heart, bone marrow, large intestine, kidney, stomach, brain, small intestine, bladder and salivary gland) being either undetectable, or at significantly lower levels compared to lung adenocarcinoma tumors.

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These clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A and/or Model 377 (Foster City, CA).

The sequences were compared to known sequences in the gene bank using the EMBL GenBank databases (release 96). No significant homologies were found to the sequence provided in SEQ ID NO: 67, with no apparent homology to previously identified expressed sequence tags (ESTs). The sequences of SEQ ID NO: 60, 62, 65, 66, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97 and 98 were found to show some homology to previously identified expressed sequence tags (ESTs). The cDNA sequences of SEQ ID NO: 59, 61, 63, 64, 67, 68, 72, 73, 75, 77, 78, 81-83, 85, 87, 88, 93, 94, 96, 99 and 100 showed homology to previously identified genes. The full-length cDNA sequences for the clones of SEQ ID NO: 96 and 100 are provided in SEQ ID NO: 316 and 318, respectively. The amino acid sequences for the clones of SEQ ID NO: 59, 61, 63, 64, 68, 73, 82, 83, 94, 96 and 100 are provided in SEQ ID NO: 331, 328, 329, 332, 327, 333, 330, 326, 325, 324 and 335, respectively. A predicted amino acid sequence encoded by the sequence of SEQ ID NO: 69 (referred to as L552S) is provided in SEQ ID NO: 786.

Further studies led to the isolation of an extended cDNA sequence, and open reading frame, for L552S (SEQ ID NO: 790). The predicted amino acid sequence encoded by the cDNA sequence of SEQ ID NO: 790 is provided in SEQ ID NO: 791. The determined cDNA sequence of an isoform of L552S is provided in SEQ ID NO: 792, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 793. Subsequent studies led to the isolation of the full-length cDNA sequence of L552S (SEQ ID NO: 808). The corresponding amino acid sequence is provided in SEQ ID NO: 809. No homologies were found to the protein sequence of L552S. However, nucleotides 533-769 of the full-length cDNA sequence were found to show homology to a previously identified DNA sequence.

Full-length cloning efforts on L552S led to the isolation of three additional cDNA sequences (SEQ ID NO: 810-812) from a metastatic lung adenocarcinoma library. The sequence of SEQ ID NO: 810 was found to show some homology to previously

identified human DNA sequences. The sequence of SEQ ID NO: 811 was found to show some homology to a previously identified DNA sequence. The sequence of SEQ ID NO: 812 was found to show some homology to previously identified ESTs.

The gene of SEQ ID NO: 84 (referred to as L551S) was determined by real-

5   time RT-PCR analysis to be over-expressed in 2/9 primary adenocarcinomas and to be expressed at lower levels in 2/2 metastatic adenocarcinomas and 1/2 squamous cell carcinomas. No expression was observed in normal tissues, with the exception of very low expression in normal stomach. Further studies on L551S led to the isolation of the 5' and 3' cDNA consensus sequences provided in SEQ ID NO: 801 and 802, respectively. The

10   L551S 5' sequence was found to show some homology to the previously identified gene STY8 (cDNA sequence provided in SEQ ID NO: 803; corresponding amino acid sequence provided in SEQ ID NO: 805), which is a mitogen activated protein kinase phosphatase. However, no significant homologies were found to the 3' sequence of L551S. Subsequently, an extended cDNA sequence for L551S was isolated (SEQ ID NO: 804).

15   The corresponding amino acid sequence is provided in SEQ ID NO: 806. Further studies led to the isolation of two independent full-length clones for L551S (referred to as 54298 and 54305). These two clones have five nucleotide differences compared to the STY8 DNA sequence. Two of these differences are single nucleotide polymorphisms which do not effect the encoded amino acid sequences. The other three nucleotide differences are

20   consistent between the two L551S clones but lead to encoded amino acid sequences that are different from the STY8 protein sequence. The determined cDNA sequences for the L551S full-length clones 54305 and 54298 are provided in SEQ ID NO: 825 and 826, respectively, with the amino acid sequence for L551S being provided in SEQ ID NO: 827.

B.   Isolation of cDNA Sequences from Lung Adenocarcinoma Libraries using

25   PCR-Based cDNA Library Subtraction

cDNA clones from a PCR-based subtraction library, containing cDNA from a pool of two human lung primary adenocarcinomas subtracted against a pool of nine normal human tissue cDNAs including skin, colon, lung, esophagus, brain, kidney, spleen,

pancreas and liver, (Clontech, Palo Alto, CA) were derived and submitted to a first round of PCR amplification. This library (referred to as ALT-1) was subjected to a second round of PCR amplification, following the manufacturer's protocol. The expression levels of 760 cDNA clones in lung tumor, normal lung, and various other normal and tumor tissues, were

5   examined using microarray technology as described above. A total of 118 clones, of which 55 were unique, were found to be over-expressed in lung tumor tissue, with expression in normal tissues tested (lung, skin, lymph node, colon, liver, pancreas, breast, heart, bone marrow, large intestine, kidney, stomach, brain, small intestine, bladder and salivary gland) being either undetectable, or at significantly lower levels. The sequences were compared

10   to known sequences in the gene bank using the EMBL and GenBank databases (release 96). No significant homologies (including ESTs) were found to the sequence provided in SEQ ID NO: 44. The sequences of SEQ ID NO: 1, 11, 13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43, 45, 46, 51 and 57 were found to show some homology to previously identified expressed sequence tags (ESTs). The cDNA sequences of SEQ ID NO: 2-10, 12, 14, 16-19,

15   21, 22, 28, 31, 32, 35-38, 40, 42, 44, 47-50, 52-56 and 58 showed homology to previously identified genes. The full-length cDNA sequences for the clones of SEQ ID NO: 18, 22, 31, 35, 36 and 42 are provided in SEQ ID NO: 320, 319, 323, 321, 317, 321 and 322, respectively, with the corresponding amino acid sequences being provided in SEQ ID NO: 337, 336, 340, 338, 334, and 339, respectively.

20   Further studies led to the isolation of an extended cDNA sequence for the clone of SEQ ID NO: 33 (referred to as L801P). This extended cDNA sequence (provided in SEQ ID NO: 796), was found to contain three potential open reading frames (ORFs). The predicted amino acid sequences encoded by these three ORFs are provided in SEQ ID NO: 797-799, respectively. Additional full-length cloning efforts led to still further

25   extended cDNA sequence for L801P, set forth in SEQ ID NO:1669, in addition to five potential open reading frames (ORFs 4-9; SEQ ID NOs: 1670-1675, respectively) encoded by the extended cDNA sequence. Moreover, L801P was mapped to chromosomal region 20p13 and a 137 amino acid ORF from this genomic region was identified that corresponds to ORF4 (SEQ ID NO: 1670), suggesting that this is likely an authentic ORF for L801P.

By microarray analysis, L801P was overexpressed by 2-fold or greater in the lung tumor probe groups compared to the normal tissue probe group (not shown). By real-time PCR analysis, greater than 50% of lung adenocarcinoma and greater than 30% of lung squamous cell carcinoma tumor samples tested had elevated L801P expression

5   relative to normal lung tissue. Of those that displayed elevated L801P, the level of expression was greater than 10-fold higher than in normal lung tissue samples. Moreover, low or no expression of L801P was detected in an extensive panel of normal tissue RNAs.

We have also found that L801P expression is detected in a number of other tumor types, including breast, prostate, ovarian and colon tumors, and thus may have

10   diagnostic and/or therapeutic utility in these cancer types as well.

In subsequent studies, a full-length cDNA sequence for the clone of SEQ ID NO: 44 (referred to as L844P) was isolated (provided in SEQ ID NO: 800). Comparison of this sequence with those in the public databases revealed that the 470 bases at the 5' end of the sequence show homology to the known gene dihydrodiol dehydrogenase, thus

15   indicating that L844P is a novel transcript of the dihydrodiol dehydrogenase family having 2007 base pairs of previously unidentified 3' untranslated region.

The predicted amino acid sequence encoded by the sequence of SEQ ID NO: 46 (referred to as L840P) is provided in SEQ ID NO: 787. An extended cDNA sequence for L840P, which was determined to include an open reading frame, is provided

20   in SEQ ID NO: 794. The predicted amino acid sequence encoded by the cDNA sequence of SEQ ID NO: 794 is provided in SEQ ID NO: 795. The full-length cDNA sequence for the clone of SEQ ID NO: 54 (referred to as L548S) is provided in SEQ ID NO: 788, with the corresponding amino acid sequence being provided in SEQ ID NO: 789.

Northern blot analyses of the genes of SEQ ID NO: 25 and 46 (referred to as

25   L839P and L840P, respectively) were remarkably similar. Both genes were expressed in 1/2 lung adenocarcinomas as two bands of 3.6 kb and 1.6 kb. No expression of L839P was observed in normal lung or trachea. No expression of L840P was observed in normal bone marrow, resting or activated PBMC, esophagus, or normal lung. Given the similar expression patterns, L839P and L840P may be derived from the same gene.

Further studies on L773P (SEQ ID NO: 58) resulted in the isolation of the extended consensus cDNA sequence provided in SEQ ID NO: 807.

Additional lung adenocarcinoma cDNA clones were isolated as follows. A cDNA library was prepared from a pool of two lung adenocarcinomas and subtracted against cDNA from a panel of normal tissues including lung, brain, liver, kidney, pancreas, skin, heart and spleen. The subtraction was performed using a PCR-based protocol (Clontech), which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. The ends of the restriction digested tester cDNA were filled in to generate blunt ends for adapter ligation. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters. The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step

was then performed, to reduce background and further enrich differentially expressed sequences.

Fifty-seven cDNA clones were isolated from the subtracted library (referred to as LAP1) and sequenced. The determined cDNA sequences for 16 of these clones are
5   provided in SEQ ID NO: 101-116. The sequences of SEQ ID NO: 101 and 114 showed no significant homologies to previously identified sequences. The sequences of SEQ ID NO: 102-109 and 112 showed some similarity to previously identified sequences, while the sequences of SEQ ID NO: 113, 115 and 116 showed some similarity to previously isolated ESTs.

10   An additional 502 clones analyzed from the LAP1 library were sequenced and the determined cDNA sequences are shown in SEQ ID NO:828-1239 and 1564-1653.

C.   Isolation of cDNA Sequences from Small Cell Lung Carcinoma Libraries using PCR-Based cDNA Library Subtraction

A subtracted cDNA library for small cell lung carcinoma (referred to as
15   SCL1) was prepared using essentially the modified PCR-based subtraction process described above. cDNA from small cell lung carcinoma was subtracted against cDNA from a panel of normal tissues, including normal lung, brain, kidney, liver, pancreas, skin, heart, lymph node and spleen. Both tester and driver poly A+ RNA were initially amplified using SMART PCR cDNA synthesis kit (Clontech, Palo Alto, CA). The tester
20   and driver double stranded cDNA were separately digested with five restriction enzymes (DraI, MscI, PvuII, SmaI, and StuI). These restriction enzymes generated blunt end cuts and the digestion resulted in an average insert size of 600 bp. Digestion with this set of restriction enzymes eliminates the step required to generate blunt ends by filling in of the cDNA ends. These modifications did not affect subtraction efficiency.

25   Eighty-five clones were isolated and sequenced. The determined cDNA sequences for 31 of these clones are provided in SEQ ID NO: 117-147. The sequences of SEQ ID NO: 122, 124, 126, 127, 130, 131, 133, 136, 139 and 147 showed no significant homologies to previously identified sequences. The sequences of SEQ ID NO: 120, 129,

135, 137, 140, 142, 144 and 145 showed some similarity to previously identified gene sequences, while the sequences of SEQ ID NO: 114, 118, 119, 121, 123, 125, 128, 132, 134, 138, 141, 143 and 147 showed some similarity to previously isolated ESTs.

In further studies, three additional cDNA libraries were generated from poly A+ RNA from a single small cell lung carcinoma sample subtracted against a pool of poly A+ RNA from nine normal tissues (lung, brain, kidney, liver, pancreas, skin, heart pituitary gland and spleen). For the first library (referred to as SCL2), the subtraction was carried out essentially as described above for the LAP1 library, with the exception that the tester and driver were digested with PvuII, StuI, MscI and DraI. The ratio of tester and driver cDNA used was as recommended by Clontech. For the second library (referred to as SCL3), subtraction was performed essentially as for SCL2 except that cDNA for highly redundant clones identified from the SCL2 library was included in the driver cDNA. Construction of the SCL4 library was performed essentially as described for the SCL3 library except that a higher ratio of driver to tester was employed.

Each library was characterized by DNA sequencing and database analyses. The determined cDNA sequence for 35 clones isolated from the SCL2 library are provided in SEQ ID NO: 245-279, with the determined cDNA sequences for 21 clones isolated from the SCL3 library and for 15 clones isolated from the SCL4 library being provided in SEQ ID NO: 280-300 and 301-315, respectively. The sequences of SEQ ID NO: 246, 254, 261, 262, 304, 309 and 311 showed no significant homologies to previously identified sequences. The sequence of SEQ ID NO: 245, 248, 255, 266, 270, 275, 280, 282, 283, 288-290, 292, 295, 301 and 303 showed some homology to previously isolated ESTs, while the sequences of SEQ ID NO: 247, 249-253, 256-260, 263-265, 267-269, 271-274, 276-279, 281, 284-287, 291, 293, 294, 296-300, 302, 305-308, 310 and 312-315 showed some homology to previously identified gene sequences.

3264 cDNA clones from three PCR-based subtracted cDNA libraries were analyzed by cDNA microarray technology as part of Lung Chip 5. Of the 3264 cDNA clones 960 clones came from SQL1 library, 768 clones came from SCL1 library, and 1536 clones came from SCL3 and SCL4 libraries. 35 pairs of fluorescent labeled cDNA probes

were used for the microarray analysis. Each probe pair included a lung tumor probe paired with a normal tissue probe. The expression data was analyzed. 498 cDNA clones were found to be overexpressed by 2-fold or greater in the small cell and/or non-small cell lung tumor probe groups compared to the normal tissue probe group. Also, the mean expression

5   values for these clones in normal tissues were below 0.1 (range of expression is from 0.001 to 10). The cDNA sequences disclosed in SEQ ID NO:1240-1563 represent 324 non-redundant clones.

The following sequences were novel based on database analysis including GenBank and GeneSeq: SEQ ID NO:1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285,

10   1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, and 1563.

15   Full-length sequence for contig 139 (SEQ ID NO: 1467), also known as L985P, was identified by searching public databases using SEQ ID NO: 1467 as a query. By this approach, L985 was identified as cell surface immunomodulator-2 (CSIMM-2), the cDNA sequence of which is set forth in SEQ ID NO: 1676, encoding a protein having the sequence set forth in SEQ ID NO: 1677.

20   By microarray analysis, L985P was overexpressed by 2-fold or greater in the lung tumor probe groups compared to the normal tissue probe group. Moreover, the mean expression values for L985P in normal tissues was below 0.2 (range of expression was from 0.01 to 10). By real-time PCR analysis, greater than 40% of small cell lung carcinoma lung tumor samples tested had elevated L985P expression relative to normal

25   lung tissue. Of those that displayed elevated L985P, the level of expression was greater than 3-fold higher than in normal lung tissue samples. Low or no expression of L985P was detected in an extensive panel of normal tissue RNAs. These findings for L985P support its use both as a diagnositic marker for detecting the presence of lung cancer in a patient and/or as a immunotherapeutic target for the treatment of lung cancer.

D.   Isolation of cDNA Sequences from a Neuroendocrine Library using PCR-
Based cDNA Library Subtraction

Using the modified PCR-based subtraction process, essentially as described above for the LAP1 subtracted library, a subtracted cDNA library (referred to as MLN1) was derived from a lung neuroendocrine carcinoma that had metastasized to the subcarinal lymph node, by subtraction with a panel of nine normal tissues, including normal lung, brain, kidney, liver, pancreas, skin, heart, lymph node and spleen.

Ninety-one individual clones were isolated and sequenced. The determined cDNA sequences for 58 of these clones are provided in SEQ ID NO: 147-222. The sequences of SEQ ID NO: 150, 151, 154, 157, 158, 159, 160, 163, 174, 175, 178, 186-190, 192, 193, 195-200, 208-210, 212-215 and 220 showed no significant homologies to previously identified sequences. The sequences of SEQ ID NO: 152, 155, 156, 161, 165, 166, 176, 179, 182, 184, 185, 191, 194, 221 and 222 showed some similarity to previously identified gene sequences, while the sequences of SEQ ID NO: 148, 149, 153, 164, 167-173, 177, 180, 181, 183, 201-207, 211 and 216-219 showed some similarity to previously isolated ESTs.

The determined cDNA sequences of an additional 442 clones isolated from the MLN1 library are provided in SEQ ID NO: 341-782. The determined cDNA sequences of an additional 11 clones isolated from the MLN1 library are provided in SEQ ID NO:1654-1664.

E.   Isolation of cDNA Sequences from a Squamous Cell Lung Carcinoma
Library using PCR-Based cDNA Library Subtraction

A subtracted cDNA library for squamous cell lung carcinoma (referred to as SQL1) was prepared, essentially using the modified PCR-based subtraction process described above, except the tester and driver double stranded cDNA were separately digested with four restriction enzymes (DraI, MscI, PvuII and StuI) cDNA from a pool of two squamous cell lung carcinomas was subtracted against cDNA from a pool of 10 normal

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tissues, including normal lung, brain, kidney, liver, pancreas, skin, heart, spleen, esophagus and trachea.

Seventy-four clones were isolated and sequenced. The determined cDNA sequences for 22 of these clones are provided in SEQ ID NO: 223-244. The sequence of SEQ ID NO: 241 showed no significant homologies to previously identified sequences. The sequences of SEQ ID NO: 223, 225, 232, 233, 235, 238, 239, 242 and 243 showed some similarity to previously identified gene sequences, while the sequences of SEQ ID NO: 224, 226-231, 234, 236, 237, 240, 241 and 244 showed some similarity to previously isolated ESTs.

The sequences of an additional 12 clones isolated during characterization of cDNA libraries prepared from lung tumor tissue are provided in SEQ ID NO: 813-824. Comparison of these sequences with those in the GenBank database and the GeneSeq DNA database revealed no significant homologies to previously identified sequences.

EXAMPLE 2
SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems Division 430A peptide synthesizer using FMOC chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water :phenol (40:1:2:2:3). After cleaving for 2 hours, the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides.

Following lyophilization of the pure fractions, the peptides may be characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

EXAMPLE 3

5   PREPARATION OF ANTIBODIES AGAINST LUNG CANCER ANTIGENS

Polyclonal antibodies against the lung cancer antigen L773P (SEQ ID NO: 783) were prepared as follows.

Rabbits were immunized with recombinant protein expressed in and purified

10   from *E. coli* as described above. For the initial immunization, 400 µg of antigen combined with muramyl dipeptide (MDP) was injected subcutaneously (S.C.). Animals were boosted S.C. 4 weeks later with 200 µg of antigen mixed with incomplete Freund's Adjuvant (IFA). Subsequent boosts of 100 µg of antigen mixed with IFA were injected S.C. as necessary to induce high antibody titer responses. Serum bleeds from immunized rabbits were tested for

15   L773P-specific reactivity using ELISA assays with purified protein and showed strong reactivity to L733P. Polyclonal antibodies against L773P were affinity purified from high titer polyclonal sera using purified protein attached to a solid support.

EXAMPLE 4

20   PROTEIN EXPRESSION OF LUNG TUMOR-SPECIFIC ANTIGENS

Full-length L773P (amino acids 2-364 of SEQ ID NO: 783), with a 6X His Tag, were subcloned into the pPDM expression vector and transformed into either BL21 CodonPlus or BL21 pLysS host cells using standard techniques. High levels of expression

25   were observed in both cases. Similarly, the N-terminal portion of L773P (amino acids 2-71 of SEQ ID NO: 783; referred to as L773PA), with a 6X His tag were subcloned into the vector pPDM and transformed into BL21 CodonPlus host cells. Low levels of expression were observed by N-terminal sequencing. The sequence of the expressed constructs for L773P and L773PA are provided in SEQ ID NO: 784 and 785, respectively.

EXAMPLE 5

EXPRESSION IN E. COLI OF L548S HIS TAG FUSION PROTEIN

5   The L548S coding region was PCR amplified with the following primers:

Forward primer starting at amino acid 2:

PDM-433: 5' gctaaaggtgaccccaagaaaccaaag 3' Tm 60°C (SEQ ID NO:1665)

Reverse primer creating a XhoI site after the stop codon:

10   PDM-438: 5' ctattaactcgagggagacagataaacagtttctta 3' Tm 61°C (SEQ ID NO:1666)

The PCR product was then digested with XhoI restriction enzyme, gel purified and then cloned into pPDM His, a modified pET28 vector with a His tag in frame, which had been digested with Eco72I and XhoI restriction enzymes. The correct construct

15   was confirmed by DNA sequence analysis and then transformed into BL21 (DE3) pLys S and BL21 (DE3) CodonPlus RIL expression hosts.

The protein sequence of expressed recombinant L548S is shown in SEQ ID NO:1667, and the DNA sequence of expressed recombinant L7548S is shown in

20   SEQ ID NO:1668.

From the foregoing it will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration, various modifications may be made without deviating from the spirit and scope of the

25   invention. Accordingly, the invention is not limited except as by the appended claims.

CLAIMS

What is claimed:

1.   An isolated polypeptide, comprising at least an immunogenic portion of a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a)   sequences recited in SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563 and 1669;

(b)   sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563 and 1669 under moderately stringent conditions; and

(c)   complements of sequences of (a) or (b).

2.   An isolated polypeptide according to claim 1, wherein the polypeptide comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563, and 1669 or a complement of any of the foregoing polynucleotide sequences.

3.   An isolated polypeptide comprising a sequence recited in any one of SEQ ID NOs: 786, 787, 791, 793, 795, 797-799, 806, 809, 827 and 1670-1675.

4.   An isolated polynucleotide encoding at least 15 amino acid residues of a lung tumor protein, or a variant thereof that differs in one or more substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785,

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790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563 and 1669 or a complement of any of the foregoing sequences.

5.   An isolated polynucleotide encoding a lung tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563 and 1669 or a complement of any of the foregoing sequences.

6.   An isolated polynucleotide, comprising a sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280,

1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563 and 1669.

7.   An isolated polynucleotide, comprising a sequence that hybridizes to a sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563 and 1669 under moderately stringent conditions.

8.   An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9.   An expression vector, comprising a polynucleotide according to any one of claims 4-8.

10.   A host cell transformed or transfected with an expression vector according to claim 9.

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11. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a lung tumor protein that comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563 and 1669 or a complement of any of the foregoing polynucleotide sequences.

12. A fusion protein, comprising at least one polypeptide according to claim 1.

13. A fusion protein according to claim 12, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.

14. A fusion protein according to claim 12, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of claim 1.

15. A fusion protein according to claim 12, wherein the fusion protein comprises an affinity tag.

16. An isolated polynucleotide encoding a fusion protein according to claim 12.

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17.   A pharmaceutical composition, comprising a physiologically acceptable carrier and at least one component selected from the group consisting of:

(a)   a polypeptide according to claim 1;

(b)   a polynucleotide according to claim 4;

(c)   an antibody according to claim 11;

(d)   a fusion protein according to claim 12; and

(e)   a polynucleotide according to claim 16.

18.   An immunogenic composition comprising an immunostimulant and at least one component selected from the group consisting of:

(a)   a polypeptide according to claim 1;

(b)   a polynucleotide according to claim 4;

(c)   an antibody according to claim 11;

(d)   a fusion protein according to claim 12; and

(e)   a polynucleotide according to claim 16.

19.   An immunogenic composition according to claim 18, wherein the immunostimulant is an adjuvant.

20.   An immunogenic composition according to any claim 18, wherein the immunostimulant induces a predominantly Type I response.

21.   A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 17.

22.   A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an immunogenic composition according to claim 18.

23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a pharmaceutically acceptable carrier or excipient.

24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.

25. An immunogenic composition comprising an antigen-presenting cell that expresses a polypeptide comprising at least an immunogenic portion of a lung tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826 and 828-1664, 1669 and 1676;

(b) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676 under moderately stringent conditions; and

(c) complements of sequences of (i) or (ii);

in combination with an immunostimulant.

26. An immunogenic composition according to claim 25, wherein the immunostimulant is an adjuvant.

27. An immunogenic composition according to claim 25, wherein the immunostimulant induces a predominantly Type I response.

28. An immunogenic composition according to claim 25, wherein the antigen-presenting cell is a dendritic cell.

29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide comprising at least an immunogenic portion of a lung tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826 828-1664, 1669 and 1676;

(b) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826 828-1664, 1669 and 1676 under moderately stringent conditions; and

(c)   complements of sequences of (i) or (ii) encoded by a polynucleotide recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826 828-1664, 1669 and 1676;

and thereby inhibiting the development of a cancer in the patient.

30.   A method according to claim 29, wherein the antigen-presenting cell is a dendritic cell.

31.   A method according to any one of claims 21, 22 and 29, wherein the cancer is lung cancer.

32.   A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i)   polynucleotides recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826 828-1664, 1669 and 1676 ; and

(ii)   complements of the foregoing polynucleotides;

wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the antigen from the sample.

33. A method according to claim 32, wherein the biological sample is blood or a fraction thereof.

34. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 32.

35. A method for stimulating and/or expanding T cells specific for a lung tumor protein, comprising contacting T cells with at least one component selected from the group consisting of:

(a) polypeptides comprising at least an immunogenic portion of a lung tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) sequences recited in SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826 828-1664, 1669 and 1676;

(ii) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785,

790, 792, 794, 796, 800-804, 807, 808, 810-826 828-1664, 1669 and 1676 under moderately stringent conditions; and

           (iii)   complements of sequences of (i) or (ii);

    (b)   polynucleotides encoding a polypeptide of (a); and

    (c)   antigen presenting cells that express a polypeptide of (a);

under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

    36.   An isolated T cell population, comprising T cells prepared according to the method of claim 35.

    37.   A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population according to claim 36.

    38.   A method for inhibiting the development of a cancer in a patient, comprising the steps of:

    (a)   incubating CD4$^+$ and/or CD8+ T cells isolated from a patient with at least one component selected from the group consisting of:

           (i)   polypeptides comprising at least an immunogenic portion of a lung tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

                (1)   sequences recited in SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676;

(2)   sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676 under moderately stringent conditions; and

(3)   complements of sequences of (1) or (2);

(ii)   polynucleotides encoding a polypeptide of (i); and

(iii)   antigen presenting cells that expresses a polypeptide of (i);

such that T cells proliferate; and

(b)   administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

39.   A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a)   incubating CD4$^+$ and/or CD8+ T cells isolated from a patient with at least one component selected from the group consisting of:

(i)   polypeptides comprising at least an immunogenic portion of a lung tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(1)   sequences recited in SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676;

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(2)   sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676 under moderately stringent conditions; and

(3)   complements of sequences of (1) or (2);

(ii)   polynucleotides encoding a polypeptide of (i); and

(iii)   antigen presenting cells that express a polypeptide of (i);

such that T cells proliferate;

(b)   cloning at least one proliferated cell to provide cloned T cells; and

(c)   administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

40.   A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a)   contacting a biological sample obtained from a patient with a binding agent that binds to a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676 or a complement of any of the foregoing polynucleotide sequences;

(b)   detecting in the sample an amount of polypeptide that binds to the binding agent; and

(c)   comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

41.   A method according to claim 40, wherein the binding agent is an antibody.

42.   A method according to claim 43, wherein the antibody is a monoclonal antibody.

43.   A method according to claim 40, wherein the cancer is lung cancer.

44.   A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a)   contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676 or a complement of any of the foregoing polynucleotide sequences;

(b)   detecting in the sample an amount of polypeptide that binds to the binding agent;

(c)   repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

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(d)   comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

45.   A method according to claim 44, wherein the binding agent is an antibody.

46.   A method according to claim 45, wherein the antibody is a monoclonal antibody.

47.   A method according to claim 44, wherein the cancer is a lung cancer.

48.   A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a)   contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676 or a complement of any of the foregoing polynucleotide sequences;

(b)   detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

(c)   comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

49.   A method according to claim 48, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

50.   A method according to claim 48, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

51.   A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a)   contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800-804, 807, 808, 810-826, 828-1664, 1669 and 1676 or a complement of any of the foregoing polynucleotide sequences;

(b)   detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c)   repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d)   comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

52.   A method according to claim 51, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

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53. A method according to claim 51, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

54. A diagnostic kit, comprising:

(a) one or more antibodies according to claim 11; and

(b) a detection reagent comprising a reporter group.

55. A kit according to claim 54, wherein the antibodies are immobilized on a solid support.

56. A kit according to claim 54, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

57. A kit according to claim 54, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

58. An oligonucleotide comprising 10 to 40 contiguous nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475,

1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563, 1669 and 1676 or a complement of any of the foregoing polynucleotides.

59.   A oligonucleotide according to claim 58, wherein the oligonucleotide comprises 10-40 contiguous nucleotides recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784, 785, 790, 792, 794, 796, 800, 802, 804, 807, 808, 811-826, 1240, 1243, 1247, 1269, 1272, 1280, 1283, 1285, 1286, 1289, 1300, 1309, 1318, 1319, 1327, 1335, 1339, 1346, 1359, 1369, 1370, 1371, 1393, 1398, 1405, 1408, 1413, 1414, 1417, 1422, 1429, 1432, 1435, 1436, 1438-1442, 1447, 1450, 1453, 1463, 1467, 1470, 1473, 1475, 1482, 1486, 1491-1494, 1501, 1505, 1506, 1514-1517, 1520, 1522, 1524, 1535, 1538, 1542, 1543, 1547, 1554, 1557, 1559, 1561, 1563, 1669 and 1676.

60.   A diagnostic kit, comprising:

(a)   an oligonucleotide according to claim 59; and

(b)   a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

COMPOSITIONS AND METHODS FOR THE THERAPY AND DIAGNOSIS OF LUNG CANCER

ABSTRACT OF THE DISCLOSURE

Compositions and methods for the therapy and diagnosis of cancer, such as lung cancer, are disclosed. Compositions may comprise one or more lung tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a lung tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as lung cancer. Diagnostic methods based on detecting a lung tumor protein, or mRNA encoding such a protein, in a sample are also provided.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	Tongtong Wang et al.
Filed	:	August 29, 2000
For	:	COMPOSITIONS AND METHODS FOR ^THE ^THERAPY AND DIAGNOSIS OF LUNG CANCER

	Docket No.	:	210121.478C10
	Date	:	August 29, 2000

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231
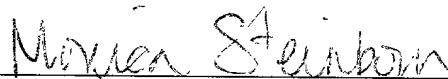
DECLARATION

Sir:

I, Monica Steinborn, in accordance with 37 C.F.R. § 1.821(f) do hereby declare that, to the best of my knowledge, the content of the paper entitled "Sequence Listing" and the computer readable copy contained within the floppy disk are the same.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated this 29th day of August, 2000.

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Wpn/210121 – Corixa/478c10/Seq/478c10 dec doc

SEQUENCE LISTING

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      Retter, Marc
      Mannion, Jane
      Fan, Liqun   THE
<120> COMPOSITIONS AND METHODS FOR ʌTHERAPY AND
    DIAGNOSIS OF LUNG CANCER

<130> 210121.478C10

<140> US
<141> 2000-08-29

<160> 1679

<170> FastSEQ for Windows Version 3.0

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tggggctgaa ccagaggaag ccaggctgag ccaagaagct ggaagtatct tgaacggctc     480
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tgaaaagcca agctgctctg tccaacacca gtgtacatgt gctttaacta aatgaactcc     300
agaggccaac agcagcagac ctgctcaatt caccttccaa atcagaacaa gaccaaaaag     360
ctcaggcttg agttgtcaac tatgcatagg ttccgccagt gctgaggggt gtgaggctct     420
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gcagtagggt ctgatgaaaa ggttgcctac cttcaaaagc ttggatttga tgtcgtcttt       120
aactacaaga cggtagagtc tttggaagaa accttgaaga aagcgtctcc tgatggttat       180
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gccattgtgg tgactgatgg agagcgtatt cttggcttgg gagaccttgg ctgtaatgga    240
atgggcatcc ctgtgggtaa attggctcta tatacagctt gcggagggat gaatcctcaa    300
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        <210> 7
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        <213> Homo sapien

        <400> 7

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atatctttgg ataatgttat ttctattttt tatttttttt cattagaagt taccaaatta    180
agatggtaag acctctgaga ccaaaatttt gtcccatctc tacccctca caactgctta     240
cagaatggat catgtccccc ttatgttgag gtgaccactt aattgctttc ctgcctcctt    300
gaaagaaaga aagaaagaag actgtgtttt tgccactgat ttagccatgt gaaactcatc    360
tcattaccct tttctg                                                    376
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        <210> 8
        <211> 406
        <212> DNA
        <213> Homo sapien

        <400> 8

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ctgtgttaaa gatgctgcta atgtcagtca ctgggtgcac taaaggatct cttatttat     180
gtaaaacgtt gggattgaca agatagatct gatactctgt taagttaccc tctgaagcta    240
cttcttgtga aatactaatg acagcatcat cctgccaagc gaaagaggca ggcataagca    300
aggacaaatt aaaaggggggt aagagcctta tcatgatgag gagtcttgtt ttgacatctt    360
gggaaaagct gtccatagtg tgaagtcgtc aatttctcac catggt                   406
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        <210> 9
        <211> 330
        <212> DNA
        <213> Homo sapien

        <400> 9

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ggggtttttct gggcctctcc aatattaagt tcaggccagg atctgtggtg gtacaattga    120
ctctggcctt ccgagaaggt accatcaatg tccacgacgt ggagacacag ttcaatcagt    180
ataaaacgga agcagcctct cgatataacc tgacgatctc agacgtcagc gtgagtgatg    240
tgccatttcc tttctctgcc cagtctgggg ctggggtgcc aggctggggc atcgcgctgc    300
tggtgctggt ctgtgttctg gttgcgctgg                                     330
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        <210> 10
        <211> 449
        <212> DNA
        <213> Homo sapien

        <400> 10

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tggagcttgg agacattacc ccttcatcag aaggaatttt cggatgtttt cttgggaagc      240
tgttttggtc cttggaagca gtgagagctg ggaagcttct tttggctcta ggtgagttgt      300
catgcgggta agttgaggtt atcttgggat aaagggtctt ctagggcaca aaactcactc      360
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aaattgagtt ctttttctta gttgtatgg                                       449
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        <211> 472
        <212> DNA
        <213> Homo sapien

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aacccttggg ggataagaca gccacacatg gctcaggctg ttaggtgtcc actgtcacag      180
tccaaagaga aaggtacggc ctccaagggg gcagcttaag ccaacatgta agacttgggc      240
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tactggaagg caggagcagt ttcttctttt tcccactctg tgctgggtac ttgggagagg      360
cgaaataaat accagactgt ccactcctca gcctaaggtc cttctcaagt cctgcacact      420
cagcacttgc tctttaacgt ggcatatgtt cccccatctt ccctggtaa tg             472
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        <210> 12
        <211> 371
        <212> DNA
        <213> Homo sapien

        <400> 12
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actgccagcc tagggatgca cttgattccc aagaaatgca actgtcctat tcgcaragcc      120
gtccacaggt acctaccccc tggactgcag caactttatt accttaacta gcacaraaca      180
gaggttgatt taaactcctt acactcactt ctcaratcaa tgaatgggca aaraaacmcc      240
tcatggctct gggaaggcat gctgaraccc gttttttgcaa gtcctgagga atggaaraat      300
atagctgcca ggtatcccaa gtctagggca gggagggkag tatcggcatc actttcactg      360
cattctgttg g                                                          371
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        <210> 13
        <211> 493
        <212> DNA
        <213> Homo sapien

        <220>
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        <222> (1)...(493)
        <223> n = A,T,C or G

        <400> 13
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aggtgccaaa tcccaggaca ggcatgaagt gaccatcatt cagcttcaca cactgatatt      180
tcgaatccat ttctgtcnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnc      240
caacctgctc ctcattattg taaacatgtg cagaatcaat atggcggaac ccagcttcta      300
ttgctaattt tgtgacctcc aaagctttac ttctcggaac cttggttctt ccgagcgctc      360
```

```
agcaatcccg ccgagcttct ttgagacgtc ctcaggtgtc ctttgacgat gcgtcctcca    420
ctttcacaca ctctagcatt ccttcactgg ggtcttcatt gccccacatt gggcagccag    480
gaatgttggg gtg                                                       493
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        <211> 540
        <212> DNA
        <213> Homo sapien

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ttaaaattat gaccaccgct ccttcaaggg gatgtagcac ttttccattc ctgtaccatg    180
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ctgtttcgag aaacagtgct ttgcttacaa tttcaggttt agatggttgc ttgaacacct    300
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tgtctttgta ttctggtaca tcgtcgtact gcacactttt ctttgtagag gatctgaagg    480
caataaatac tggggagcca tcgggctttt catatttcca tttgcccaaa catgagattc    540
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        <211> 421
        <212> DNA
        <213> Homo sapien

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atctcttgtt ccttgggact ggggccagcc tcttgtctgc ccacttccct ctcattagtc    180
agatagcccc aaaggctcta tctttagctc ccagagaact ttttggtcct cagtatttcc    240
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atcatcaatc tcccctgccc ctctcttgaa gcccccagta tttggatgaa gagcaggcca    360
gtgagcaggg caaagcctgc taggagcaga atgaccttga ggatcctttg ctcagaactg    420
g                                                                    421
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        <211> 236
        <212> DNA
        <213> Homo sapien

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gctgacagca aagagctgct ctctgtgggc ctgcttcatc tcatccgaga ggccgtacaa    120
gaagtggtcc attcctttgt ctgaaggagc gacaggagca tctacggttg agaagacaga    180
aagtttggct tcgtcgatgt cttgctgtgt gaattttcca gacttagccc agtcga        236
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        <210> 17
        <211> 424
        <212> DNA
        <213> Homo sapien

        <400> 17
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```

```
agcagatgca gatgataata ttcttgatta ctcggatgga atggaagaaa tatttggttc      180
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ttggattgat cctaaccaag gttgctcagg agattccttc aaagtttact gtaatttcac      360
atctggtggt gagacttgca tttatccaga caaaaaatct gagggagtaa gaatttcatc      420
atgg                                                                   424
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        <212> DNA
        <213> Homo sapien
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cacaagagac ttaaaggaca ggaggaggag atgg                                  154
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        <211> 445
        <212> DNA
        <213> Homo sapien
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caccaatagt gaggaaatca ttgaaggaga atataatacg gtgatgctgg caataggaag      180
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cgatatattg gaggataagg tggagctcac cccagttgca atccaggcag gaagattgct      360
ggctcagagg ctctatgcag gttccactgt caaagtgtga ctatgaaaat gttccaacca      420
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        <211> 211
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        <213> Homo sapien
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ctgggttcgt ccccagtgag accggaggat gatcccccaa ggactgcgca gcatcagctc      180
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        <211> 396
        <212> DNA
        <213> Homo sapien
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tgatgctgcc attgttgata tggttcctgg caagcccatg tgtgttgaga gcttctcaga      180
ctatccacct ttgggtcgct ttgctgttcg tgatatgaga cagacagttg cggtgggtgt      240
catcaaagca gtggacaaga aggctgctgg agctggcaag gtcaccaagt ctgcccagaa      300
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agctcagaag gctaaatgaa tattatccct aatacctgcc accccactct taatcagtgg      360
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        <210> 22
        <211> 277
        <212> DNA
        <213> Homo sapien


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tccatcttct ggttgaggga atccacaaac cactcatccc ccatgaaatt gcaggccatg      180
tctacatctc cattatataa taggatctgg gatttctgtg agctaagcag cttcagatac      240
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        <210> 23
        <211> 634
        <212> DNA
        <213> Homo sapien


        <400> 23
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aaatgaattt gctttcaaaa taaatgaaga gcag                                 634


        <210> 24
        <211> 512
        <212> DNA
        <213> Homo sapien


        <400> 24
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aaagaaaaat cataaaaatc ataaaaagtt atttctttga aaagatcaat gaaatttagc      120
aagactgaca cagataaaaa ggaattagac ccaaatcagt gaacaggaat gaaatagagg      180
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gtgctcataa atttgacaat gtagaggaaa tatctttagt tttaattagc ttttttatttt     300
agtttttctc aaaaactaaa acttaataaa actcaaccaa gacaaaatag acaatcagaa      360
tgtaggcata cctcagagat gtggcggatt tggtttcaga ctactgcaat aaaccaaata      420
tggcaataaa aggagtcaca gaaagtggtt tcccagtgta tatatataaa agttacattt      480
actctatgaa gtgcaataac attttgtcta aa                                   512


        <210> 25
        <211> 461
        <212> DNA
        <213> Homo sapien
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<400> 25
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ttgttcattg aaatctctag ccatttccct ggttaaacag gataatcttt tttttttcact      120
aaagaacatt cgtggtggtt tagtgatgag gttaatattc ccctcttgtc cacctccaca       180
ttggaaaaac cacgttggac tgagtttttga ggagcaaaga actaatcact tgaccaaagg      240
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ggatacctga aaatgtgatt ttatatattc ttggcatcca ggggagaaaa atcaaaaagc       360
aaggaagtta cagttatctc cccagaaatt aatgggtcat gtcaagacta taggttttca       420
tttccttctg ttgcttgtta gaatgatgtt cttgtgggaa a                          461


        <210> 26
        <211> 317
        <212> DNA
        <213> Homo sapien


        <400> 26
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taggatttat tacactaaaa aaaaattagt ttttgaaaag aaataggaga atacagaaac       120
atgaatttca cgaggctatc atctaacagt gggggctttc tacacacgtg gtgccaaaat       180
gtgtcattct gagtcaattg caattcctct ctaggagtga aaagagataa aagataagcc       240
aagaaccctg gacagattct tggtgttggt gacaaagagg aaaggacctg agaatggggc       300
tggtggggag aggggggg                                                     317


        <210> 27
        <211> 250
        <212> DNA
        <213> Homo sapien


        <400> 27
taattgctgt gattattaga attctatcat gactgtattg tagtttttgc tctattycag        60
ataagcmaga tctaagaagt tatcaaaact attctttaaa atgctaaagc aggtaacttt       120
ttcttccatt attttttcct cctaccactg agtttgtaa tgaattcctt gtgtatacaa        180
gcaatacagg tgaatactaa actgttattt ttagcttctt caaaagctat tttagaaagc       240
ttcctggaaa                                                              250


        <210> 28
        <211> 532
        <212> DNA
        <213> Homo sapien


        <400> 28
cctatatcat tcatttatac agaagctgct tgctgcttag caagttggtg ggtttgattt        60
tccttggttg ctttgcagac ctcccttgag aggattcctt ctggatggag atttctttgt       120
tgctgtctcc cttgccacaa ctctgaccaa gattgcattg cgctatgtag ctttggttca      180
ggagaagaaa aagcaaaatt cttttgttgc tgaggctatg ttgctcatgg ctactatcct      240
gcatttggga aaatcctctc ttcctaagaa gccaattact gatgatgatg tggatcgaat       300
ttccctgtgc ctcaaggtct tgtctgaatg ttcaccttta atgaatgaca ttttcaataa       360
ggaatgcaga cagtcccttt ctcacatgtt atctgctaaa ctagaagaag agaaattatc      420
ccaaaagaaa gaatctgaaa agaggaatgt gacagtacag cctgatgacc ccatttcctt       480
catgcaacta actgctaaga atgaaatgaa ctgcaaggaa gatcagtttc ag              532


        <210> 29
        <211> 486
        <212> DNA
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<213> Homo sapien

<400> 29
ctgttttgg   acttaattaa   cywttgcaag   tggaaaccaa   gaaataattg   tagcataact   60
ctctctattg   tcatgttgct   tctttctgca   aatatatctt   acaagttaga   ctttaaacct   120
ttgatctccc   acaccaaaag   agaaaataat   atttatatgg   aagtaatttt   attttagtgt   180
ttgtgattta   ttgtggagag   caggbgttta   aaaattttag   aatttctttt   taacaaaatc   240
aaatacattg   ttaaggtaac   aaagaataat   tcactatttc   agcatttcaa   agcaacatat   300
tctacaactt   caaagatatt   tgcaaaaata   atacaactgt   tgaagttcaa   atgttatgga   360
aagaaacatt   agaagtatga   aaagtggtac   aaaaacatgt   ttctttttat   tctcttggat   420
atatatctat   atatttagga   aaatacatat   atgtatgtgt   atgtatatat   atgtatgaaa   480
atatac   486

<210> 30
<211> 240
<212> DNA
<213> Homo sapien

<400> 30
aagacctgag   gaaggaaaac   aaattggctt   cctgctgaag   aakcaaaata   gacatttttt   60
aatgtctctt   gaccccagtt   ccaagttcac   cctgttgcct   gttcttcctc   ccaccttttg   120
gggttctata   actgcatccc   ccacacatct   ttcaccacca   ccccatacat   accagctctc   180
ctgttgtggg   attcaggaca   taggaagagt   tgctgaaggc   acgggtgctt   ttgggattcg   240

<210> 31
<211> 233
<212> DNA
<213> Homo sapien

<400> 31
ccattgatgc   aggatatcgg   cacattgact   gtgcctatgt   ctatcagaat   gaacatgaag   60
tgggggaagc   catccaagag   aagatccaag   agaaggctgt   gaagcgggag   gacctgttca   120
tcgtcagcaa   gttgtggccc   actttctttg   agagacccct   tgtgaggaaa   gcctttgaga   180
agaccctcaa   ggacctgaag   ctgagctatc   tggacgtcta   tcttattcac   tgg   233

<210> 32
<211> 233
<212> DNA
<213> Homo sapien

<400> 32
gaggaatgct   ggactggagg   cccctggagc   cagatggcaa   gagggtgaca   gcttcctttc   60
ctgtgtgtac   tctgtccagt   tcctttagaa   aaaatggatg   cccagaggac   tcccaaccct   120
ggcttggggt   caagaaacag   ccagcaagag   ttaggggcct   tagggcactg   ggctgttgtt   180
ccattgaagc   cgactctggc   cctggccctt   acttgcttct   ctagctctct   agg   233

<210> 33
<211> 319
<212> DNA
<213> Homo sapien

<400> 33
ctgggcctgg   atggtctagg   atagccttac   tcacttgcct   ggcaggtgac   aggctgttgg   60
ctggaattgc   ttggttctcc   tccatgtggc   ctctccagta   ggctagctca   ggcttattca   120

```
catgatggct tcaggattcc aaagagagtg agagtagaag ctgaaagact tcttgagttc          180
ttggcctgga actgggacta ggacagtgtc acttctgcta agttcttttg gtcagagcaa          240
atcacaaggc tttacccaga ttcaagggat gagaaacaga ctacatgtct tgatgagggg          300
aaccacaaag agcttgtgg                                                        319
```

```
        <210> 34
        <211> 340
        <212> DNA
        <213> Homo sapien


        <400> 34
tacagattta attcatgtta ttaactccct gccttttacc tcctccctcc tcccttggca           60
caactgccag atggatgtgg ctggaagtca gaggacattc tcgtgggttc gtgggcctag          120
ggtacaaatg acctcagcgt gacagcaaac aggacagaga agaccaggct cttactcagg          180
aatccaccag ccaggagaat gacaatgttg aacaccggaa ccctgatgat atctgtcaca          240
tttgtaaggt tgatttcaga gtcaggagtg gagacatcgg cagttgactt gggtggagct          300
tgggtcacag ttctggggct ggtatagagt gggcacaagg                                340
```

```
        <210> 35
        <211> 170
        <212> DNA
        <213> Homo sapien


        <400> 35
acatgggtcc ttcactcctc gctgagatgt tgcggcagcc ttttcttcca atgcggttgt           60
ggcaggagaa tccacggatg taatgttttc accttttcc ctgagggtgc tttctgagga          120
accagycctt aagaggtggg gtcttggatt cctgacccag gcgtccggca                     170
```

```
        <210> 36
        <211> 475
        <212> DNA
        <213> Homo sapien


        <400> 36
ctgtttttgg acttaattaa ccattgcaag tggaaaccaa gaaataattg tagcataact           60
ctctctattg kcatgttgct tctttctgca aatatatctt agaagttaga cttaaacct          120
ttgatctccc acaccaaaag agaaaataat atttatatgg aagtaatttt attttagtgt          180
ttgtgattta ttgtggagag caggtgttta aaaattttag aatttcttta caaaaattct          240
aaagagaaaa taaaaaagaa atcacagtat ttacagagat aacagaatgg cttagccatg          300
caaaacaaat aactttggtt tttccccttt tactttggtt taaatgttga ccaagattca          360
attttttttc ctgccaaata aaacttcaat aaaagtttag aggcaaaata acgtattttc          420
ttttttccc ataatatttt atacagcatc gagtctaaga atattttatg cattt               475
```

```
        <210> 37
        <211> 246
        <212> DNA
        <213> Homo sapien


        <400> 37
ccttgagctt gggccgggca ctgaggcgcc ccacatatgc tgagagcagg gggaacgcat           60
ccaggcagcc aggggctagg acctcatgga tcagcagcaa gtccagcagg ttgtagtcag          120
cgaaggagat ctggtctccc acaatgaagg tcttgcctcc ctggttctgg acagcaggg          180
tctcaaaagg cttcagttgc ccgggcagtg ccttcacata gtcatccttg cccacctcat          240
agttgg                                                                     246
```

```
<210> 38
<211> 512
<212> DNA
<213> Homo sapien

<400> 38
gctggaagtg aaatgcagat cagacccatt gtgatgtcac agaaagatgg ggacaggcca        60
aagaaaaaag tgactttcaa ctcttcttcc atcattttta tcatcaccag tgatgaatca       120
ctgtcagttg acgacagcga caaaaccaat gggtccaaag ttgatgtaat ccaagttcgt       180
cctttgtagg aatgaagaat ggcaacgaaa gatggggcct taaattggat gccacttttg       240
gactttcatc ataagaagtg tctggaatac ccgttctatg taatatcaac agaaccttgt       300
ggtccagcag gaaatccgaa ttgcccatat gctcttgggc ctcaggaaga ggttgaacaa       360
aaacaaattc ttttaattca acgggtgctt tacataatga aaaaaccact tgtggcacac       420
gatgggcatc taacatcatc atcttctaat gtgttggaga ttttcatttc aaatatattt       480
tttaaattac tctattttcc aaaacacgta at                                     512


<210> 39
<211> 370
<212> DNA
<213> Homo sapien

<400> 39
ttttatgaac aagatataag gatcaaaaaa aagggtgttg atatgttttt ccaagcagag        60
atgtactcga ctctgtccta tttagccttc ccatacctga cttctaatca cttttcctgg       120
tgccctycca tctccctaac cccccctcac agggatgcct cctcccaagg ctccagaaac       180
tctgaccctc gcactgctgg agggagccca tgaattgctg gtcaatatcg ctcatcctct       240
akactccatc ctgcgtgtgc ttcttcctac aagagctaga gaggcactga ctgataaata       300
cctgtcacct gcccctttcc cagagggtga aactccaccc actcccactg cagaaatgaa       360
tcttaaatgg                                                              370


<210> 40
<211> 204
<212> DNA
<213> Homo sapien

<400> 40
cctgagggtt ttcccttaa attttcattg agttgtccat ctccagcata tagggcttca        60
ggagcagagc agaccttgtt tttagtggtt ccatgggata aaatgggatt ggaggagcta       120
gaagaattca gggtctggtc caatctgcca gtcttcctga aatatcgaaa atacaccagg       180
gctgctatat cagagccacc ctgg                                              204


<210> 41
<211> 447
<212> DNA
<213> Homo sapien

<400> 41
caggcagcaa ttcgtaaaga attaaatgag tacaaaagta atgaaatgga ggtacatgca        60
tcaagcaagc acttgacaag attccacagg ccatagagat tttcttctga gaagaatttg       120
tgtttaattt tttgatacca acactgaaca ttcatcaggg aactttcctg aagttcagct       180
caagactacc ctacctgctg tgtttgtgag aagagtagga tcacacacac aggtgcaatc       240
ttgaccacac ttacctgcaa gaggagtaac cagaggacac acttccttcc ttctttggtg       300
tctgaggagt gtgaactgtt ggggtcagtt aagacccaac ataactctat cagaagaaaa       360
```

```
ctgttgtttg cctttcaacc ttgttttaca gttctgcagt gtagtggagg acgggcaacg    420
tgcatgtgca ggctcaccac tcccagg                                         447
```

        <210> 42
        <211> 498
        <212> DNA
        <213> Homo sapien

        <400> 42
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ctggttttgt aaaaacagtc tctttattct actgtgctga aaccctcacc aatatagaaa     60
attagattct cattgcactg aactatattt atatgcctaa gtatgtagaa gtaaaattat    120
ataccccaaa aggattttat cttgttgtat atattaaatg ttatttctgc atataggggtc   180
ttttatggag aaactgatga tgataagctt aatactcact tgtttagcag catctgaatg    240
cacaaatgct ttatatatct cttctgcttt acagggcaaa agatcagact ctgttttctt    300
atagtcttca caagccagcc agaactcaat attctcctca ctgaattcag actttaggaa    360
acttccaaag acattttgac cagtttggtt ggcaagaagt ttttccagag attgagacca    420
ttgcattact tcagcagcag aaagtacatc cttggacttg gaagatttca ttccagattc    480
cagatgtggg atcataga                                                   498
```

        <210> 43
        <211> 312
        <212> DNA
        <213> Homo sapien

        <400> 43
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caggaaggcg gccaagaatg tgagtgcaaa gattggttcc tgagagcccc gagaagaaaa     60
ttcatgacag tgtctgggct gccaaagaag cagtgcccct gtgatcattt caagggcaat    120
gtgaagaaaa caagacacca aaggcaccac agaaagccaa acaagcattc cagagcctgc    180
cagcaatttc tcaaacaatg tcagctaaga agctttgctc tgcctttgta ggagctctga    240
gcgcccactc ttccaattaa acattctcag ccaagaagac agtgagcaca cctaccagac    300
actcttcttc tc                                                        312
```

        <210> 44
        <211> 417
        <212> DNA
        <213> Homo sapien

        <400> 44
```
ctaacacatt tactctccac tattcgtact ctggtagcca tgttaacccc atcagagatt     60
ccttctcaag ccatgtctca gagctgagag gcatcccagc aagttttgca gctcacagtt    120
ttttccgtaa attacttatt ctataaaatt ggagtaggcc ataaactttg gagggcccta    180
gaccaatttt ttggattatt tttcgtcttc tatcattccg ctgatcttag atattctctg    240
cattaaatat taaatatcac ttctaggctg aaaaatcccc ctaaaaatat ttctagctca    300
gattttttcct ccaaattctg caatagaaga tcacaatgtg aactctgcat ctccatgtta    360
aagtctaatg gacattcaca cttagcatgt ctcaaagaaa tctcatgtaa accatgg       417
```

        <210> 45
        <211> 494
        <212> DNA
        <213> Homo sapien

        <400> 45
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cgcgtgtctg tggtatgtgt acacgtgcat gttctgcatg tctgtaggtc acacatgctt     60
tggtgcatgt acacgtgtgt gtgtgtatgc gtgtaggagc tcacacttgt gtacacgttt    120
```

```
gtgtgcatgc atgtgtgcag gagcttgcac gtttgtggtg ggtacatgta catatgtgag    180
tgatcctgtg tgcaagcccc catgtggaca tggctatgag tgagcgtgga gccaaaagcc    240
aggtaacacg catgcagcag gcccactgtg cgtgtctgag acggtctgtg cagggactg     300
ggtgtgaatc atgcagcagg cccactgtgc gtgtctgaga cggtctgtgg cagggactgg    360
gtgtgaatca gtgaccgtgt ctctgaccaa catgctgaat tacaaattga taatttatta    420
acctgtgcag caacaaataa gatttttcaa aactcaacaa agtgctcaaa gttgacatta    480
cttgcttcaa agtt                                                      494


        <210> 46
        <211> 516
        <212> DNA
        <213> Homo sapien


        <400> 46
ccagtccaac ctgctcctca ttattgtata aatgagcaga atctatatgg cggaacccag     60
cttctattgc taattttgtg acctccaaag ctttacttct cggaacctcc tcctttggcc    120
gtcatttgat cattcaactc tttgtcagtg gcaactcccg ctattttggt gtgttggttt    180
gttactacac agtgagcaca aacatggtgg tccaatacag aggctcttcc tgtcaggtgt    240
caaccagaaa gttcatctaa cactgtgata tttgcatcct tcttgaacag ttgttggctg    300
aagattcatt tgatgaatcg attttcaaa agagatgatt cttggttctt ccgagcgctc      360
agctctcccg ccgagcttct ttgagacgtc ctcaggtgtc ctttgacgat gcgtcctcca    420
ctttcacaca ctctagcatt ccttcactgg ggtcttcatt gccccacatt gggcagccag    480
gaatgttggg gtgatcagac acaacaccag gtcatg                              516


        <210> 47
        <211> 459
        <212> DNA
        <213> Homo sapien


        <400> 47
ccaattcaga gtggcattct gcatttctgt ggcttccaag tcttagaacc tcaactgaca     60
tatagcattg ggcacactcc agcagacgcc cgaattcaaa tcctggaagg atggaagaaa    120
cgcctggaga atatttggga tgagacacca ctgtatttg ctccaagcag cctctttgac      180
ctaaacttcc aggcaggatt cttaatgaaa aaagaggtac aggatgagga gaaaaacaag    240
aaatttggcc tttctgtggg ccatcacttg ggcaagtcca tcccaactga caaccagatc    300
aaagctagaa aatgagattc cttagcctgg atttccttct aacatgttat caaatctggg    360
tatctttcca ggcttccctg acttgcttta gtttttaaga tttgtgtttt tctttttcca    420
caaggaataa atgagaggga atcgaksaaa aaaaaaaaa                           459


        <210> 48
        <211> 430
        <212> DNA
        <213> Homo sapien


        <400> 48
cctatattca gccacagcct ctgggagtgg tgctgataat cggagcttgg aattacccct     60
tcgttctcac cattcagcca ctgataggag ccatcgctgc aggaaatgct gtgattataa    120
agccttctga actgagtgaa aatacagcca agatcttggc aaagcttctc cctcagtatt    180
tagaccagga tctctatatt gttattaatg gtggtgttga ggaaaccacg gagctcctga    240
agcagcgatt tgaccacatt ttctatacgg gaaacactgc ggttggcaaa attgtcatgg    300
aagctgctgc caagcatctg accctgtga ctcttgaact gggagggaaa agtccatgtt      360
atattgataa agattgtgac ctggacattg tttgcagacg cataacctgg ggaaaataca    420
tgaattgtgg                                                          430
```

```
<210> 49
<211> 288
<212> DNA
<213> Homo sapien

<400> 49
ccatccgaag caagattkca gatggcagtg tgaagagaga agacatattc tacacttcaa      60
agctttggwg caattcccat cgaccagagt tggtccgacc agccttggaa aggtcactga     120
aaaatcttca attggattat gttgacctct accttattca ttttccagtg tctgtaaagc     180
caggtgagga agtgatccca aaagatgaaa atggaaaaat actatttgac acagtggatc     240
tctgtgccac gtgggaggcc rtggagaagt gtaaagatgc aggattgg                 288

<210> 50
<211> 411
<212> DNA
<213> Homo sapien

<400> 50
ccagagaatg acattcatgt ccccgtggat cccttgcaga gagtacatgg agccactgcc      60
accagtggtg atggaaagca ctgtcttctt actccggaag ggtcctttgt catacatggc     120
agcgtaagtg taagcaaact ctcctatgaa cactcgctca aaccagcctt tcagaatggc     180
agggactcca aaccactgca gggggaactg gaatatcaca aggtctgcgg cttccagctt     240
cttttgttca gccacaatat ctgggctcag atggccttct ttataagcca gaacagactc     300
ggcaggatac tgaaagttcg cagggtcctt cagtttacct gtgatgtcct ttctggaaat     360
gatgggattg aagttcatgg catagaggtc cgactccacc acctcccatc c             411

<210> 51
<211> 503
<212> DNA
<213> Homo sapien

<400> 51
gatatcttat gattaaaaac aaattaaatt ttaaaacacc tgaagatata ttagaagaaa      60
ttgtgcaccc tccacaaaac atacaaagtt taaaagtttg gatctttttc tcagcaggta     120
tcagttgtaa ataatgaatt aggggccaaa atgcaaaacg aaaaatgaag cagctacatg     180
tagttagtaa tttctagttt gaactgtaat tgaatattgt ggcttcatat gtattatttt     240
atattgtact tttttcatta ttgatggttt ggactttaat aagagaaatt ccatagtttt     300
taatatccca gaagtgagac aatttgaaca gtgtattcta gaaaacaata cactaactga     360
acagaagtga atgcttatat atattatgat agccttaaac ctttttcctc taatgcctta     420
actgtcaaat aattataacc ttttaaagca taggactata gtcagcatgc tagactgaga     480
ggtaaacact gatgcaatta aga                                           503

<210> 52
<211> 503
<212> DNA
<213> Homo sapien

<400> 52
gatatcttat gattaaaaac aaattaaatt ttaaaacacc tgaagatata ttagaagaaa      60
ttgtgcaccc tccacaaaac atacaaagtt taaaagtttg gatctttttc tcagcaggta     120
tcagttgtaa ataatgaatt aggggccaaa atgcaaaacg aaaaatgaag cagctacatg     180
tagttagtaa tttctagttt gaactgtaat tgaatattgt ggcttcatat gtattatttt     240
atattgtact tttttcatta ttgatggttt ggactttaat aagagaaatt ccatagtttt     300
taatatccca gaagtgagac aatttgaaca gtgtattcta gaaaacaata cactaactga     360
```

```
acagaagtga atgcttatat atattatgat agccttaaac cttttcctc taatgcctta        420
actgtcaaat aattataacc ttttaaagca taggactata gtcagcatgc tagactgaga        480
ggtaaacact gatgcaatta aga                                                503


     <210> 53
     <211> 531
     <212> DNA
     <213> Homo sapien


     <400> 53
tttttttttt ttttaaaat gaggatattt tattatttca ggtaattttc ccagaggkga        60
gaatagtaca tgggaaattc tctttaggcc aggtctagta ttacagkgtg gkgctcaagg       120
ccgcccatca gaacagtgat actctcccaa cagatttcat ccaccccgtc tccactaact       180
tttgccataa aaattcctct gaattgtatc ttcttggaag aagtaaatat ctgttcgact       240
atacaaagaa acagagaaac cactcccatt gcaatcaatc ttcaagagag ggagcaggca       300
agccgtgttc tttctgctga gttttataga ctctgacaag ctgtgaaata aacataaaca       360
gaagacaaaa cagtgccaca aataagcagt agatgaccct gtgacaagac ggcattgcag       420
aacaaagact gacgtttaaa ggggagtcat gcagagtaac atgggaacac aagcctgaca       480
acctggtcag cttccactta ctctagctcc tttgaactct caacactaaa a               531


     <210> 54
     <211> 450
     <212> DNA
     <213> Homo sapien


     <400> 54
ccatgggtgt ctggagcwcc ctgaaactgt atcaaagttg tacatatttc caaacatttt        60
taaaatgaaa aggcactctc gtgttctcct cactctgtgc actttgctgt ggtgtgaca       120
aggcatttaa agatgtttct ggcatttct ttttatttgt aaggtggtgg taactatggt       180
tattggctag aaatcctgag ttttcaactg tatatatcta tagtttgtaa aaagaacaaa       240
acaaccgaga caaacccttg atgctccttg ctcggcgttg aggctgtggg gaagatgcct       300
tttgggagag gctgtagctc agggcgtgca ctgtgaggct ggacctgttg actctgcagg       360
gggcatccat ttagcttcag gttgtcttgt ttctgtatat agtgacatag cattctgctg       420
ccatcttagc tgtggacaaa ggggggtcag                                        450


     <210> 55
     <211> 648
     <212> DNA
     <213> Homo sapien


     <400> 55
caacttcaac cacaggctgc tggasatgat cctcarcaag ccagggctca agtacaagcc        60
tgtctgcaac caggtggaat gtcatcctta cttcaaccag agaaaactgc tggatttctg       120
caagtcaaaa gacattgttc tggttgccta tagtgctctg ggatcccacc gagaagaacc       180
atgggtggac ccgaactccc cggtgctctt ggaggaccca gtcctttgtg ccttggcaaa       240
aaagcacaag cgaaccccag ccctgattgc cctgcgctac cagctrcagc gtggggttgt       300
ggtcctggcc aagagctaca atgagcagcg catcagacag aacgtgcagg tgtttgaatt       360
ccagttgact tcagaggaga tgaaagccat agatggccta aacagaaatg tgcgatattt       420
gacccttgat atttttgctg gccccctaa ttatccattt tctgatgaat attaacatgg       480
agggcattgc atgaggtctg ccagaaggcc ctgcgtgtgg atggtgacac agaggatggc       540
tctatgctgg tgactggaca catcgcctct ggttaaatct ctcctgcttg gygayttcag       600
caagctacag caaagcccat tggccggaaa aaatatcaag ggtcaaat                    648


     <210> 56
```

```
<211> 536
<212> DNA
<213> Homo sapien

<400> 56
ctggcatgag aatatttttt tttttaagtg cggtagtttt taaactgttt gttttttaaac    60
aaactataga actcttcatt gtcagcaaag caaagagtca ctgcatcaat gaaagttcaa   120
gaacctcctg tacttaaaca cgattcgcaa cgttctgtta tttttttttgt atgtttagaa   180
tgctgaaatg tttttgaagt taaataaaca gtattacatt tttaaaactc ttctctatta   240
taacagtcaa tttctgactc acagcagtga acaaaccccc actccattgt atttggagac   300
tggcctccct ataaatgtgg tagcttcttt tattactcag tggacctgcc cgggcggccg   360
ctcgaagccg aattccagca cactggcggc cgttactagt ggatccgagc tcggtaccaa   420
gcttggccgt aatcatggtc atagctgttt cctgtgtgaa attgttatcc gctcacaatt   480
ccacacaaca tacgagccgg aagcataaag tgtaaagcct ggggtgccta atgagt       536

<210> 57
<211> 391
<212> DNA
<213> Homo sapien

<400> 57
aggaactact gtcccagagc tgaggcaagg ggatttctca ggtcatttgg agaacaagtg    60
ctttagtagt agtttaaagt agtaactgct actgtattta gtggggtgga attcagaaga   120
aatttgaaga ccagatcatg ggtggtctgc atgtgaatga acaggaatga gccggacagc   180
ctggctgtca ttgctttctt cctccccatt tggacccttc tctgccctta cattttttgtt   240
tctccatcta ccaccatcca ccagtctatt tatttgtcta gttggatttc atttcttctg   300
gaaaatttat tgtttattgg catgtgaccc ttgactgatg gcttcattag cattytgttt   360
ttcttttttgg atccttaata gaaaactcaa t                                  391

<210> 58
<211> 455
<212> DNA
<213> Homo sapien

<400> 58
gaagacatgc ttacttcccc ttcaccttcc ttcatgatgt gggaagagtg ctgcaaccca    60
gccctagcca acgccgcatg agagggagtg tgccgagggc ttctgagaag gtttctctca   120
catctagaaa gaagcgctta agatgtggca gcccctcttc ttcaagtggc tcttgtcctg   180
ttgccctggg agttctcaaa ttgctgcagc agcctccacc cagcctgagg atgacatcaa   240
tacacagagg aagaagagtc aggaaaagat gagagaagtt acagactctc ctgggcgacc   300
ccgagagctt accattcctc agacttcttc acatggtgct aacagatttg ttcctaaaag   360
taaagctcta gaggccgtca aattggcaat agaagccggg ttccaccata ttgattctgc   420
acatgtttac aataatgagg agcaggttgg actgg                               455

<210> 59
<211> 398
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(398)
<223> n = A,T,C or G
```

```
<400> 59
ctcagaggca gcgtgcgggt gtgctctttg tgaaattcca ccatggcgta ccgtggccag      60
ggtcagaaag tgcagaaggt tatggtgcag cccatcaacc tcatcttcag atacttacaa     120
aatagatcgc ggattcaggt gtggctctat gagcaagtga atatgcggat agaaggctgt     180
atcattggtt ttgatgagta tatgaacctt gtattagatg atgcagaaga gattcattct     240
aaaacaaagt caagaaaaca actngntcgg atcatgctaa aaggagataa tattactctg     300
ctacaaagtg tctccaacta gaaatgatca atgaagtgag aaattgttga gaaggataca     360
gtttgttttt agatgtcctt tgtccaatgt gaacattt                             398


        <210> 60
        <211> 532
        <212> DNA
        <213> Homo sapien


        <400> 60
gacttctgag acctggggca cccgggcctt tgcggcagct actggcaggg cctggccacc      60
tcataggact cagttccctt ctgaacactc gggggacatg ggcctctaac tgcccactct     120
gatatgcctg ggtgagccta ggagggaagg ctctgatttg gatttctcca gtcaaagctc     180
acagaaaaaa acctggcact ttgatttttca tgggatggtc ctaacagggt cagtcacctc     240
cgagcagttt gggaacccag tttcttgtcc tgggccctca ggtcagcctg gctgaattag     300
gacccttcct tggcacaggg gtgagaaaga gcttggggaa cgcttggcat tatggagggc     360
tggaaggggc tcaaccccga tttggagaga agtttgggat ggagtgggcg agagattgag     420
agagcgagca ggaaaagagg tcttggagcc tgggactgat ggtggataag gcctggaaag     480
aasatgacsa ggaggaggag agagggaagt gggtggatga ggagcaggct ga             532


        <210> 61
        <211> 466
        <212> DNA
        <213> Homo sapien


        <400> 61
gcgacggcga cgtctctttt gactaaaaga cagtgtccag tgctccagcc taggagtcta      60
cggggaccgc ctcccgcgcc gccaccatgc ccaacttctc tggcaactgg aaaatcatcc     120
gatcggaaaa cttcgaggaa ttgctcaaag tgctgggggt gaatgtgatg ctgaggaaga     180
ttgctgtggc tgcagcgtcc aagccagcag tggagatcaa acaggaggga gacactttct     240
acatcaaaac ctccaccacc gtgcgcacca cagagattaa cttcaaggtt ggggaggagt     300
ttgaggagca gactgtggat gggaggccct gtaagagcct ggtgaaatgg gagagtgaga     360
ataaaatggt ctgtgagcag aagctcctga agggagaggg ccccaagacc tcgtggacca     420
gagaactgac caacgatggg gaactgatcc tgaccatgac ggcgga                    466


        <210> 62
        <211> 548
        <212> DNA
        <213> Homo sapien


        <400> 62
ttttgaattt acaccaagaa cttctcaata aaagaaaatc atgaatgctc cacaatttca      60
acataccaca agagaagtta atttcttaac attgtgttct atgattattt gtaagacctt     120
caccaagttc tgatatcttt taaagacata gttcaaaatt gcttttgaaa atctgtattc     180
ttgaaaatat ccttgttgtg tattaggttt ttaaatacca gctaaaggat tacctcactg     240
agtcatcagt accctcctat tcagctcccc aagatgatgt gtttttgctt accctaagag     300
aggtttttctt cttatttta gataattcaa gtgcttagat aaattatgtt ttctttaagt     360
gtttatggta aactctttta aagaaaattt aatatgttat agctgaatct ttttggtaac     420
tttaaatctt tatcatagac tctgtacata tgttcaaatt agctgcttgc ctgatgtgtg     480
```

```
tatcatcggt gggatgacag aacaaacata tttatgatca tgaataatgt gctttgtaaa    540
aagatttc                                                             548
```

```
        <210> 63
        <211> 547
        <212> DNA
        <213> Homo sapien


        <400> 63
tttccaaagc ggagacttcc gacttcctta caggatgagg ctgggcattg cctgggacag     60
cctatgtaag gccatgtgcc ccttgcccta acaactcact gcagtgctct tcatagacac    120
atcttgcagc atttttctta aggctatgct tcagtttttc tttgtaagcc atcacaagcc    180
atagtggtag gtttgccctt tggtacagaa ggtgagttaa agctggtgga aaaggcttat    240
tgcattgcat tcagagtaac ctgtgtgcat actctagaag agtagggaaa ataatgcttg    300
ttacaattcg acctaatatg tgcattgtaa aataaatgcc atatttcaaa caaaacacgt    360
aatttttta cagtatgttt tattacctttt tgatatctgt tgttgcaatg ttagtgatgt    420
tttaaaatgt gatcgaaaat ataatgcttc taagaaggaa cagtagtgga atgaatgtct    480
aaaagatctt tatgtgttta tggtctgcag aaggattttt gtgatgaaag gggattttt     540
gaaaaat                                                              547
```

```
        <210> 64
        <211> 528
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(528)
        <223> n = A,T,C or G


        <400> 64
cacctmctcc csccwggcgc ttwctcsgac gccttgccca scgggccgcc cgaccccctg     60
srccatggac cccgctcgcc csctggggmt gtygatkctg ctgctttc tgrckgaggc    120
tgcactgggc gatgctgatc argagccaac aggaaataac rcggagatct gkctcctgcc    180
cctagactac kgaccctgcc kggccctact tytccgytac tactacgaca ggyacacgca    240
gagctgccgc cwgttcctgk rckggggctg crasggcaac rccaacwatt yctacacckg    300
kgaggmttrc gackatgctw gstggargat agaaaaagtt cccaaasttt gccggctgma    360
agtgaatgag gacnaccagg gtgaggggta cacagataag tatttctta atctaakkwc    420
catgacatgw gaaaaattct ttnncggtgg gngtcaccgg accggattga gaacangttt    480
gcagatgang ctactgggat gggctcctgc rcacnaaaga aantatca                528
```

```
        <210> 65
        <211> 547
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(547)
        <223> n = A,T,C or G


        <400> 65
kgaatgaasa acgaacgctg gaagtagaaa tagagcctgg ggtgagagac ggcatggagt     60
acccctttat tggagaaggt gagcctcacg tggatgggga gcctggagat ttacggttcc    120
```

```
gaatcaaagt tgtcaagcac ccaatatttg aaaggagagg agatgatttg tacacaaatg    180
tgacagtctc attagttgag tcactggttg gctttgagat ggatattact cacttggatg    240
gtcacaaggt acatatttcc cgggataaga tcaccaggcc aggagcgaag ctatggaaga    300
aaggggaagg gctccccaac tttgacaaca acaatatcaa gggctctttg ataatcactt    360
ttgatgtgga ttttccaaaa gaacagttaa cagaggaagc gagagaagt atcaaacagc    420
tactgaaaca agggtcagtg cagaaggtat acaatggact gcaaggatat tgagagtgaa    480
taaaattgga ctttgtttaa aataaagtga ataagcgata tttattatct gcaaggtttt    540
ttttgtg                                                              547


        <210> 66
        <211> 535
        <212> DNA
        <213> Homo sapien

        <400> 66
ggggaggtct acgcttctag agcttgagcc agcggggcga ccctgcagtg gcaggactcg     60
gcaccgcgcc ctccaccgcc ggttggtggc ctgcgtgaca gtttcctccc gtcgacatcg    120
aaaggaagcc ggacgtgggc gggcagagag cttcatcgca gtaggaatgg cagccccatc    180
tatgaaggaa agacaggtct gctggggggc ccgggatgag tactggaagt gtttagatga    240
gaacttagag gatgcttctc aatgcaagaa gttaagaagc tctttcgaat caagttgtcc    300
ccaacagtgg ataaaatatt ttgataaaag aagagactac ttaaaattca agaaaaatt    360
tgaagcagga caatttgagc cttcagaaac aactgcaaaa tcctaggctg ttcataaaga    420
ttgaaagtat tctttctgga cattgaaaaa gctccactga ctatggaaca gtaaatagtt    480
gaatcatagt gaacatcaat acttgttccc tatatacgac acttgataat taaga         535


        <210> 67
        <211> 527
        <212> DNA
        <213> Homo sapien

        <400> 67
atttctgcca cttaattcaa acagtcatat gcaggtcgct taatttattt gtgctttgt     60
ttcatcttct acaaggccct cttagctcta aaacttgaca gtggaataag gaaatgtttt    120
tccaaatctg cattgccggt gagatcctca acatcagcat gttgagatgg acctcaaccc    180
cacctctaac cctgaaacac actactcgat attatcttag gtatgtttta gggtttagtt    240
tgtaaaataa taatttattt ttgaaggaaa tataaaatat taaagagtaa taatagctat    300
cattttttaa gattcaatct aaaacaatgg actctttttt tttccatttg tgatgtagat    360
aagcaagaca attttgatca tgagtggtga aaagaggatc aaacttgact attcttgcaa    420
tggcagtcca gcaacaagcc tttcatttac attaaattat aacttttcat tcattcctaa    480
accaaactta aaattctgct ttcctttgag tagaaggtat ttaactt                  527


        <210> 68
        <211> 431
        <212> DNA
        <213> Homo sapien

        <400> 68
gggaaacttc atgggtttcc tcatctgtca tgtcgatgat tatatatgga tacatttaca     60
aaaataaaaa gcgggaattt tcccttcgct tgaatattat ccctgtatat tgcatgaatg    120
agagatttcc catatttcca tcagagtaat aaatatactt gctttaattc ttaagcataa    180
gtaaacatga tataaaaata tatgctgaat tacttgtgaa gaatgcattt aaagctattt    240
taaatgtgtt tttatttgta agacattact tattaagaaa ttggttatta tgcttactgt    300
tctaatctgg tggtaaaggt attcttaaga atttgcaggt actacagatt ttcaaaactg    360
aatgagagaa aattgtataa ccatcctgct gwtcctttag tgcaatacaa taaaactctg    420
```

aaattaaaac t   431

```
        <210> 69
        <211> 399
        <212> DNA
        <213> Homo sapien

        <400> 69
gacacggcgg acacacacaa acacagaacc acacagccag tcccaggagc ccagtaatgg          60
agagccccaa aaagaagaac cagcagctga aagtcgggat cctacacctg ggcagcagac         120
agaagaagat caggatacag ctgagatccc agtgcgcgac atggaaggtg atctgcaaga         180
gctgcatcag tcaaacaccg gggataaatc tggatttggg ttccggcgtc aaggtgaaga         240
taatacctaa agaggaacac tgtaaaatgc cagaagcagg tgaagagcaa ccacaagttt         300
aaatgaagac aagctgaaac aacgcaagct ggttttatat tagatatttg acttaaacta         360
tctcaataaa gttttgcagc tttcaccaar aaaaaaaaa                                 399

        <210> 70
        <211> 479
        <212> DNA
        <213> Homo sapien

        <400> 70
cgcggcggag ctgtgagccg gcgactcggg tccctgaggt ctggattctt tctccgctac          60
tgagacacgg cggacacaca caaacacaga accacacagc cagtcccagg agcccagtaa         120
tggagagccc caaaaagaag aaccagcagc tgaaagtcgg gatcctacac ctgggcagca         180
gacagaagaa gatcaggata cagctgagat cccaggtgct gggaagggaa atgcgcgaca         240
tggaaggtga tctgcaagag ctgcatcagt caaacaccgg ggataaatct ggatttgggt         300
tccggcgtca aggtgaagat aatacctaaa gaggaacact gtaaaatgcc agaagcaggt         360
gaagagcaac cacaagttta aatgaagaca agctgaaaca acgcaagctg ttttatatt          420
aggatatttg acttaaacta tctcaataaa gttttgcagc tttcaccaaa aaaaaaaaa          479

        <210> 71
        <211> 437
        <212> DNA
        <213> Homo sapien

        <400> 71
ctcagcggct gccaacagat catgagccat cagctcctct ggggccagct ataggacaac          60
agaactctca ccaaaggacc agacacagtg rgcaccatgg gacagtgtcg gtcagccaac         120
gcagaggatg ctcaggaatt cagtgatgtg gagagggcca ttgagaccct catcaagaac         180
tttcaccagt actccgtgga gggtgggaag gagacgctga cccccttctga gctacgggac        240
ctggtcaccc agcagctgcc ccatctcatg ccgagcaact gtggcctgga agagaaaatt        300
gccaacctgg gcagctgcaa tgactctaaa ctggagttca ggagtttctg ggagctgatt        360
ggagaagcgg ccaagagtgt gaagctggag aggcctgtcc gggggcactg agaactccct        420
ctggaattct tggggggg                                                        437

        <210> 72
        <211> 561
        <212> DNA
        <213> Homo sapien

        <400> 72
ggatggtata ctgtaaattc agcatatgga gataccatta tcataccttg ccgacttgac          60
gtacctcaga atctcatgtt tggcaaatgg aaatatgaaa agcccgatgg ctccccagta         120
```

```
tttattgcct tcagatcctc tacaaagaaa agtgtgcagt acgacgatgt accagaatac    180
aaagacagat tgaacctctc agaaaactac actttgtcta tcagtaatgc aaggatcagt    240
gatgaaaaga gatttgtgtg catgctagta actgaggaca acgtgtttga ggcacctaca    300
atagtcaagg tgttcaagca accatctaaa cctgaaattg taagcaaagc actgtttctc    360
gaaacagagc agctaaaaaa gttgggtgac tgcatttcag aagacagtta tccagatggc    420
aatatcacat ggtacaggaa tggaaaagtg ctacatcccc ttgaaggagc ggtggtcata    480
attttttaaaa aggaaatgga cccagtgact cagctctata ccatgacttc caccctggag    540
tacaagacaa ccaaggctga c                                              561


        <210> 73
        <211> 916
        <212> DNA
        <213> Homo sapien

        <400> 73
ggagaaaata aggtggagtc ctacttgttt aaaaaatatg tatctaagaa tgttctaggg     60
cactctggga acctataaag gcaggtattt cgggccctcc tcttcaggaa tcttcctgaa    120
gacatggccc agtcgaaggc ccaggatggc ttttgctgcg gccccgtggg gtaggaggga    180
cagagagaca gggagagtca gcctccacat tcagaggcat cacaagtaat ggcacaattc    240
ttcggatgac tgcagaaaat agtgttttgt agttcaacaa ctcaagacga agcttatttc    300
tgaggataag ctctttaaag gcaaagcttt attttcatct ctcatctttt gtcctcctta    360
gcacaatgta aaaaagaata gtaatatcag aacaggaagg aggaatggct tgctggggag    420
cccatccagg acactgggag cacatagaga ttcacccatg tttgttgaac ttagagtcat    480
tctcatgctt ttctttataa ttcacacata tatgcagaga agatatgttc ttgttaacat    540
tgtatacaac atagccccaa atatagtaag atctatacta gataatccta gatgaaatgt    600
tagagatgct atatgataca actgtggcca tgactgagga aaggagctca cgcccagaga    660
ctgggctgct ctcccggagg ccaaacccaa gaaggtctgg caaagtcagg ctcagggaga    720
ctctgccctg ctgcagacct cggtgtggac acacgctgca tagagctctc cttgaaaaca    780
gaggggtctc aagacattct gcctacctat tagcttttct ttattttttt aactttttgg    840
ggggaaaagt attttttgaga agtttgtctt gcaatgtatt tataaatagt aaataaagtt    900
tttaccatta aaaaaa                                                    916


        <210> 74
        <211> 547
        <212> DNA
        <213> Homo sapien

        <400> 74
agtggcatta acttttagaa tttgggctgg tgagattaat ttttttttaat atcccagcta     60
gagatatggc ctttaactga cctaaagagg tgtgttgtga tttaattttt tcccgttcct    120
ttttcttcag taaacccaac aatagtctaa ccttaaaaat tgagttgatg tccttatagg    180
tcactacccc taaataaacc tgaagcaggt gttttctctt ggacatacta aaaaatacct    240
aaaaggaagc ttagatgggc tgtgacacaa aaaattcaat tactgtcatc taatgccagc    300
tgttaaaagt gtggccactg agcatttgat tttataggaa aaaatagtat ttttgagaat    360
aacatagctg tgctattgca catctgttgg aggacatccc agatttgctt atactcagtg    420
cctgtgatat tgagtttaag gatttgaggc aggggtaatt attaaacata ttgcttctat    480
tcttggaaaa atagaagkgt aaaatgttaa taatacaaat gtcactgtga cctcctccac    540
tgagagg                                                             547


        <210> 75
        <211> 793
        <212> DNA
        <213> Homo sapien
```

```
<400> 75
tgaggaagtt gcaagccaac aaaaaagttc aaggatctag aagacgatta agggaaggtc      60
gttctcagtg aaaatccaaa aaccagaaaa aaatgtttat acaaccctaa gtcaataacc     120
tgaccttaga aaattgtgag agccaagttg acttcaggaa ctgaaacatc agcacaaaga     180
agcaatcatc aaataattct gaacacaaat ttaatatttt tttttctgaa tgagaaacat     240
gagggaaatt gtggagttag cctcctgtgg agttagcctc ctgtggtaaa ggaattgaag     300
aaaatataac accttacacc cttttcatc ttgacattaa aagttctggc taactttgga      360
atccattaga gaaaaatcct tgtcaccaga ttcattacaa ttcaaatcga agagttgtga     420
actgttatcc cattgaaaag accgagcctt gtatgtatgt tatggataca taaaatgcac     480
gcaagccatt atctctccat gggaagctaa gttataaaaa taggtgcttg gtgtacaaaa     540
cttttatat caaaaggctt tgcacatttc tatatgagtg ggtttactgg taaattatgt      600
tatttttac aactaatttt gtactctcag aatgtttgtc atatgcttct tgcaatgcat      660
attttttaat ctcaaacgtt tcaataaaac catttttcag atataaagag aattacttca     720
rattgagtaa ttcagaaaaa ctcaagattt aagttaaaaa gtggtttgga cttgggaaca     780
ggactttata cct                                                        793

<210> 76
<211> 461
<212> DNA
<213> Homo sapien

<400> 76
accttgcact attcccctca gtccatctat cgaggtcttt gcaggaagca tactgggaat      60
tgaaacgaga gcctaaatga catctaagaa aggcagtgtt caataccagg tattaggtga     120
ggatgggatt ctaaggacat cagtgggagg cagggagcca ccttcagacc tcagcatgga     180
agcttccaag atccagagga agaggcaaca gcactgagag tcataggtag aagaatcatc     240
acagccctgc taaccaggca gctgatgccc ctctcccctg gctccctgtg tccaaatcct     300
acaggggcat ctgttggctg aactcaacct gaagccaaag agaagatgag tggagagagg     360
caacatttat agagctcagg tttctagggc tggagaggga tctggaggga cacacaggag     420
acacctggca taaccaaaaa atgattaaaa aaaaaaaaa a                         461

<210> 77
<211> 642
<212> DNA
<213> Homo sapien

<400> 77
ggttgcacga aacacactgg ggaatggagc aaaacagtct ttgaatatcg aacacgcaag      60
gctgtgagac tacctattgt agatattgca ccctatgaca ttggtggtcc tgatcaagaa     120
tttggtgtgg acgttggccc tgtttgcttt ttataaacca aactctatct gaaatcccaa     180
caaaaaaaat ttaactccat atgtgttcct cttgttctaa tcttgtcaac cagtgcaagt     240
gaccgacaaa attccagtta tttatttcca aaatgtttgg aaacagtata atttgacaaa     300
gaaaaatgat acttctcttt ttttgctgtt ccaccaaata caattcaaat gcttttttgtt     360
ttatttttt accaattcca atttcaaaat gtctcaatgg tgctataata aataaacttc      420
aacactcttt atgataacaa aaaaaarawa wattctttga atcctagccc atctgcagag     480
caatgactgt gctcaccagt aaaagataac ctttctttct gaaatagtca aatacgaaat     540
tagaaaagcc ctccctattt taactacctc aactggtcag aaacacagat tgtattctat     600
gagtcccaga agatgaaaaa aattttatac gttgataaaa ct                       642

<210> 78
<211> 519
<212> DNA
<213> Homo sapien
```

```
        <400> 78
gcagaagaag aagcggacct tccgcaagtt cacctaccgc ggcgtggacc tcgaccagct        60
gctggacatg tcctacgagc agctgatgca gctgtacagt gcgcgccagc ggcggcggct       120
gaaccggggc ctgcggcgga agcagcactc cctgctgaag cgcctgcgca aggccaagaa       180
ggaggcgccg cccatggaga agccggaagt ggtgaagacg cacctgcggg acatgatcat       240
cctacccgag atggtgggca gcatggtggg cgtctacaac ggcaagacct tcaaccaggt       300
ggagatcaag cccgagatga tcggccacta cctgggcgag ttctccatca cctacaagcc       360
cgtaaagcat ggccggcccg gcatcggggc cacccactcc tcccgcttca tccctctcaa       420
gtaatggctc agctaataaa aggcgcacat gactccaaaa aaaaaaaaaa aagggcggcc       480
gccaccgcgg gggagctcca ctttgttcc ctttaatga                              519


        <210> 79
        <211> 526
        <212> DNA
        <213> Homo sapien


        <400> 79
gtctggaggc ggtgtcctct ccgccctgtc gggtcctgga tgagtacgag ttatggtcac        60
ggtcacagcc tgatctctta tgtgttcata gccattcgct ctcccatcag aactgtttgt       120
cctgaatgtg ttcctctagt tctagaaaat gaccactaat ttaaaaaact cggttgtgag       180
gtttgcccag aggcacttgt tccagaattt cccctcctgc ttcagccatg tccttgtcac       240
ttggcattct aagctaaagc tttagcttcc caattcgtga tgtgctaggc caagattcgg       300
gagctgttgc cagcctcgtc aaatatggaa gagaaacaac ctgcggtcaa aagggagtga       360
tttgttaagt ggtgcgcgtc tatctcataa ctagatgtac caaccaggga agggccaagg       420
atggaaaggg gtaacttttg tgcttccaaa gtagctaagc agaagtgggg gagcagttta       480
gccagatgat ctttgattag gcaaacattg agttttaaag aggctg                     526


        <210> 80
        <211> 281
        <212> DNA
        <213> Homo sapien


        <400> 80
gttatattag tgggtagtgt aacatttat ccaggttggg gtgaggggag atggccacag         60
tagcaagtgg tgacactaaa taccattttg aaggctgatg tgtatataca tcattactgt       120
ccgtagcaat gaaggataca gtactgtgtt gtgggtgagt gttgctattg cccagcatta       180
atatttgggt gtgtatgttt gaggctatga aacacgcagg agtgtttttg tgctattaat       240
tttaagagaa agcagctttt tcttaaaatt cactgttgag a                          281


        <210> 81
        <211> 405
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(405)
        <223> n = A,T,C or G


        <400> 81
gtgggtggga gcgcgtgctg ttgggagttg cttggaggtt ggcggcgcgg ggctgaaggc        60
tagcaaaccg agcgatcatg tcgcacaaac aaatttacta ttcggacaaa tacgacsacg       120
aggagtttga statcgacat gtcatgctgc ccaaggacat akccaasctg gtccctaaaa       180
cccatctgat gtctgaatct gaatggagga atcttggcng ttcagmagan tcagggatgg       240
```

```
gtccattata tgatccatga nccagaacct cdcatcttgc tgttccggcg scccacttac      300
cccaanaaac caamgaaatg aaccttggct actactttc aatcctcaaa kcttttcaca      360
vhtgaccttc cttcctaaca ttctttmtga taaacattta ttaag                     405


        <210> 82
        <211> 547
        <212> DNA
        <213> Homo sapien


        <400> 82
tagtttttaa gaagaaattt tttttggcct atgaaattgt taaacctgga acatgacatt       60
gttaatcata taataatgat tcttaaatgc tgtatggttt attatttaaa tgggtaaagc      120
catttacata atatagaaag atatgcatat atctagaagg tatgtggcat ttatttggat      180
aaaattctca attcagagaa atcatctgat gtttctatag tcactttgcc agctcaaaag      240
aaaacaatac cctatgtagt tgtggaagtt tatgctaata ttgtgtaact gatattaaac      300
ctaaatgttc tgcctaccct gttggtataa agatattttg agcagactgt aaacaagaaa      360
aaaaaaatca tgcattctta gcaaaattgc ctagtatgtt aatttgctca aaatacaatg      420
tttgatttta tgcactttgt cgctattaac atcctttttt tcatgtagat ttcaataatt      480
gagtaatttt agaagcatta ttttaggaat atatagtkgt cacagtaaat atcttgtttt      540
ttctatg                                                               547


        <210> 83
        <211> 529
        <212> DNA
        <213> Homo sapien


        <400> 83
ctattctaag agatgctctt agtgatcttg cattcacactt tctgaataaa atgaagatca      60
tggtgattaa ggatattgaa agagaagaca ttgaattcat ttgtaagaca attggaacca     120
agccagttgc tcatattgac caatttactg ctgacatgct gggttctgct gagttagctg     180
aggaggtcaa tttaaatggt tctggcaaac tgctcaagat tacaggctgt gccagccctg     240
gaaaaacagt tacaattgtt gttcgtggtt ctaacaaact ggtgattgaa gaagctgagc     300
gctccattca tgatgcccta tgtgttattc gttgtttagt gaagaagagg gctcttattg     360
caggaggtgg tgctccagaa atagagttgg ccctacgatt aactgaatat tcacgaacac     420
tgagtggtat ggaatcctac tgcgttcgtg cttttgcaga tgctatggag gtcattccat     480
ctacactagc tgaaaatgcc cggcctgaat cccatttcta cagtaacag                 529


        <210> 84
        <211> 527
        <212> DNA
        <213> Homo sapien


        <400> 84
cccatcacca gaatcccttc atgggaggga tggatgcctg ttgaaactca ctgacctatt      60
ggactgacgc tggggtggta tcttcatcag agctattgta agtcatccaa aaggcttctg     120
acgaaagaac aattttttaaa aagtccctct tttcaatcaa gccaatgtcc tattttatt     180
ctaaaagttt tgggactcgt gctgttatca agtacaatga aaatggcttt ataaatagct     240
gttttgacat tgtgatagaa ggcttgaata cggaggaaag atgtcgctgg agctagtcct     300
gagttccgac tgtccctgtg gtgggaatcc agtctgggaa agcaggactg ttttagcaaa     360
cgtgtactcg ttctataaaa atggaatctg ttctgcaggt taccgtccct ccccgcccaa     420
gcatcccctc tgtcctgtct ctctgctgct gggacccagg gcttttttcag ctgcagaacc     480
cactggactt ccaggaatca aggaaaaagt ggaaatgtcc aactgtg                  527


        <210> 85
```

```
<211> 401
<212> DNA
<213> Homo sapien

<400> 85
cagtgtggtg gaattcccaa gatagaaatg aaaaactctt ttatagagtg ctgacatctg      60
acattgagaa attcatgcct attgtttata ctcccactgt gggtctggct tgccaacaat     120
atagtttggt gtttcggaag ccaagaggtc tctttattac tatccacgat cgagggcata     180
ttgcttcagt tctcaatgca tggccagaag atgtcatcaa ggccattgtg gtgactgatg     240
gagagcgtat tcttggcttg ggagaccttg gctgtaatgg aatgggcatc cctgtgggta     300
aattggctct atatacagct tgcggaggga tgaatcctca agaatgtctg cctgtcattc     360
tggatgtggg aaccgaaaat gaggagttac ttaaagatcc a                        401


<210> 86
<211> 547
<212> DNA
<213> Homo sapien

<400> 86
gaagcctctt gtgtttgtgt gcagagaagt atatgatcca ccatgctaat gacacttgcc      60
ttttttttcca ccattaaggc tttaagaaca tgtggaataa gttttttagc tgctaatgac     120
aaaacaaatc ctgtaactac ccagccagca agtatatagc acagaacact gtgttacttt     180
acaagggctt atgtgactgg aataaggtgg tcccacttga ctgttccaaa gagcagcttc     240
tcagatcttc agtgttcact ggtaaatttc taacagtgta tttgtgtaaa gtttgtcatt     300
tcatactcca tacactacag ttgctgtcac tgatccctgt tttgctggct tttaagctac     360
ttggtcaaaa atcctgcttc cttaaaacat agagaattaa tgagcatctc aagctttttc     420
ttttcctttt taatgatgcc tgcactatca agagtattct agtgttctct ctttgtttgg     480
catataatca tgcaccaaac tttttatttc tttaaggtgg gagtatattt ttatttccta     540
aatgcca                                                             547


<210> 87
<211> 530
<212> DNA
<213> Homo sapien

<400> 87
atggattcga aataccagkg tgtgaagctg aatgatggtc acttcatgcc tgtcctggga      60
tttggcacct atgcgcctgc agaggttcct aaaagtaaag ctctagaggc cgtcaaattg     120
gcaatagaag ccgggttcca ccatattgat tctgcacatg tttacaataa tgaggagcag     180
gttggactgg ccatccgaag caagattgca gatggcagtg tgaagagaga agacatattc     240
tacacttcaa agctttggag caattcccat cgaccagagt tggtccgacc agccttggaa     300
aggtcactga aaaatcttca attggactat gttgacctct atcttattca ttttccagtg     360
tctgtaaagc caggtgagga agtgatccca aaagatgaaa atggaaaaat actatttgac     420
acagtggatc tctgtgccac rtgggaggcc atggagaagt gtaaagatgc aggattggcc     480
aagtccatcg gggtgtccaa cttcaaccac aggctgctgg agatgatcct                530


<210> 88
<211> 529
<212> DNA
<213> Homo sapien

<400> 88
acctgagcta agaaggataa ttgtcttttg gtaactaggt ctacaggttt acattttct      60
gtgttacact caaggataaa ggcaaaatca attttgtaat ttgtttagaa gccagagttt     120
```

```
atctttcta  taagtttaca  gccttttct  tatatataca  gttattgcca  cctttgtgaa      180
catggcaagg  gacttttta  caatttttat  tttattttct  agtaccagcc  taggaattcg      240
gttagtactc  atttgtattc  actgtcactt  tttctcatgt  tctaattata  aatgaccaaa      300
atcaagattg  ctcaaaaggg  taaatgatag  ccacagtatt  gctccctaaa  atatgcataa      360
agtagaaatt  cactgccttc  ccctcctgtc  catgaccttg  ggcacaggga  agttctggtg      420
tcatagatat  cccgttttgt  gaggtagagc  tgtgcattaa  acttgcacat  gactggaacg      480
aagtatgagt  gcaactcaaa  tgtgttgaag  atactgcagt  catttttgt               529
```

```
        <210> 89
        <211> 547
        <212> DNA
        <213> Homo sapien

        <400> 89
gtttatatat  atagcgaata  aatctagttg  tataaatttt  taaatgccgt  cagtagaaag      60
cacacaaggt  tatgattttt  ttaattactg  gcttctgatt  tctttcactt  ctgatccttt      120
tccttttct  cagatgtagc  tgagtcttga  tcattttaag  acaacgatgg  gtagaatttt      180
gagattaatg  ttaatttcc  cttttttgtta  atttcagtcc  cctctcacta  tgcttttgtc      240
cagaaggatc  aagaattcta  ccatcccttg  ggtctttgtg  tataaacaat  gttaaataaa      300
ggtagactca  gtctttaaga  tattagacag  tttttttagt  ccatgggatt  gtaaatataa      360
acattaactt  tcctataaga  atattttggc  tttgtaatct  atagcctcaa  attggtattt      420
attatggatt  cactagacaa  acagctgttt  ccttattgtc  ttttttcttt  agtgtttctg      480
atttgctatc  agtagctgtt  tttaaagcca  tccaaggaaa  ataattattt  acagtttttg      540
aagtcac                                                            547
```

```
        <210> 90
        <211> 528
        <212> DNA
        <213> Homo sapien

        <400> 90
gagcagcaga  agctgtacag  caagatgatc  gtggggaacc  acaaggacag  gagccgctcc      60
tgagcctgcc  tccagctggc  tggggccacc  gtgcggggtg  ccaacgggct  cagagctgga      120
gttgccgccg  ccgcccccac  tgctgtgtcc  tttccagact  ccagggctcc  ccgggctgct      180
ctggatccca  ggactccggc  tttcgccgag  ccgcagcggg  atccctgtgc  acccggcgca      240
gcctaccctt  ggtggtctaa  acggatgctg  ctgggtgttg  cgacccagga  cgagatgcct      300
tgtttctttt  acaataagtt  gttggaggaa  tgccattaaa  gtgaactccc  cacctttgca      360
cgctgtgcgg  gctgagtggt  tggggagatg  tggccatggt  cttgtgctag  agatggcggt      420
acaagagtct  gttatgcaag  cccgtgtgcc  agggatgtgc  tgggggcggc  cacccgctct      480
ccaggaaagg  cacagctgag  gcactgtggc  tggcttcggc  ctcaacat               528
```

```
        <210> 91
        <211> 547
        <212> DNA
        <213> Homo sapien

        <400> 91
atataccatt  taatacattt  acactttctt  atttaagaag  atattgaatg  caaaataatt      60
gacatataga  actttacaaa  catatgtcca  aggactctaa  attgagactc  ttccacatgt      120
acaatctcat  catcctgaag  cctataatga  agaaaaagat  ctagaaactg  agttgtggag      180
ctgactctaa  tcaaatgtga  tgattggaat  taraccmttt  ggscyttgra  ccttymtwrg      240
raaaawgrmc  cmacctttyt  taacmtgrac  cwccytmatc  tctagaagct  gggatggact      300
tactatyctk  gttwatattt  taaatackga  aaggtgctat  gcttctgtta  ttattccaag      360
actggagata  ggcagggcta  aaaaggtatt  attattttc  ctttaatgat  ggtgctaaaa      420
```

```
ttcttcctat aaaattcctt aaaaataaag atggtttaat cactaccatt gtgaaaacat      480
aactgttaga cttcccgttt ctgaaagaaa gagcatcgtt ccaatgcttg ttcactgttc      540
ctctgtc                                                                547
```

```
        <210> 92
        <211> 527
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(527)
        <223> n = A,T,C or G


        <400> 92
gctggctagt aggggaacat gtagtagcca agcccatgca ttgcagtgca cagagcaaca       60
ttggggtaac aggatgggta cctgtcacgg cctgtgcaaa cataacatgt gtcaccacac      120
tgaaggtatg gtggaacaag tggcctcacc aaggtcggac cccaatggac ttttttgcctc     180
ttgggagctt atgggtctat gaggacacag tagcctttcc tatcagcaaa ctggagtgga      240
tgttgtatct gggggtggcc ttatgtacct gctactgttc tccccacatt gcccagatgc      300
ctgtataact gggaggcact gkgctctcag tttttgcgaa tgtgatgagc cccctggtgt      360
ttctaccctt ttggcaatga ctatccctgg agncatgtgt caaaactgta aagcacaatt      420
tactgctctt tgcggagcac accgctcatg ctctgaatta cacctgaktg tccctcctcc      480
wgktawtgaa tgaggttgat cnvatcagaa adgtggkgtt ggcmata                    527
```

```
        <210> 93
        <211> 531
        <212> DNA
        <213> Homo sapien


        <400> 93
ggtattcata cagccttcct aaaggcaatg ctttccacag gatttaagat accccagaaa       60
ggcatcctga taggcatcca gcaatcattc cggccaagat tccttggtgt ggctgaacaa      120
ttacacaatg aaggtttcaa gctgtttgcc acggaagcca catcagactg gctcaacgcc      180
aacaatgtcc ctgccacccc agtggcatgg ccgtctcaag aaggacagaa tcccagcctc      240
tcttccatca gaaaattgat tagagatggc agcattgacc tagtgattaa ccttcccaac      300
aacaacacta aatttgtcca tgataattat gtgattcgga ggacagctgt tgatagtgga      360
atccctctcc tcactaattt tcaggtgacc aaactttttg ctgaagctgt gcagaaatct      420
cgcaaggtgg actccaagag tcttttccac tacaggcagt acagtgctgg aaaagcagca      480
tagagatgca gacaccccag ccccattatt aaatcaacct gagccacatg t              531
```

```
        <210> 94
        <211> 547
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(547)
        <223> n = A,T,C or G


        <400> 94
gttaaacatg gtctgcgtgc cttaagagag acgcttcctg cagaacagga cctgactaca       60
aagaatgttt ccattggaat tgttggtaaa gacttggagt ttacaatcta tgatgatgat      120
```

```
gatgtgtctc cattcctgga aggtcttgaa gaaagaccac agagaaaggc acagcctgct      180
caacctgctg atgaacctgc agaaaaggct gatgaaccaa tggaacatta agtgataagc      240
cagtctatat atgtattatc aaatatgtaa gaatacaggc accacatact gatgacaata      300
atctatactt tgaaccaaaa gttgcagagt ggtggaatgc tatgtttag gaatcagtcc        360
agatgtgagt ttttccaag caacctcact gaaacctata taatggaata cattttttctt       420
tgaaagggtc tgtataatca ttttctagaa agtatgggta tctatactaa tgttttttata      480
tgaagaacat aggtgtcttt gtggtttaa agacaactgt gaaataaaat tgtttcaccg        540
cctggtn                                                                 547
```

```
        <210> 95
        <211> 1265
        <212> DNA
        <213> Homo sapien

        <400> 95
gtggtcaagc agtgattttt ctgggactgc agaagttcct gctgtgccca acctttatta       60
ctaactggga aagacccagg gagactggga tgggctcatg attctacata cagaactcat       120
ccaagaaagg aggaaaagct gattttttgtg aacgtcgcta cttgtgcctg aactaactct      180
caggcacatt agtcagaaaa tactacctat ggttactccc ccaggttcct aaaagtaaag       240
ctttagaggc caccaaattg gcaattgaag ctggcttccg ccatattgat tctgctcatt       300
tatacaataa tgaggagcag gttggactgg ccatccgaag caagattgca gatggcagtg       360
tgaagagaga agacatattc tacacttcaa agctttggtg caattcccat cgaccagagt       420
tggtccgacc agccttggaa aggtcactga aaaatcttca attggattat gttgacctct       480
accttattca ttttccagtg tctgtaaagc caggtgagga agtgatccca aaagatgaaa       540
atggaaaaat actatttgac acagtggatc tctgtgccac gtgggaggcc gtggagaagt       600
gtaaagatgc aggattggcc aagtccatcg gggtgtccaa cttcaaccgc aggcagctgg       660
agatgatcct caacaagcca gggctcaagt acaagcctgt ctgcaaccag gtggaatgtc       720
atccttactt caaccagaga aaactgctgg atttctgcaa gtcaaaagac attgttctgg       780
ttgcctatag tgctctggga tcccaccgag aagaaccatg ggtggacccg aactcccgg        840
tgctcttgga ggacccagtc ctttgtgcct tggcaaaaaa gcacaagcga accccagccc       900
tgattgccct gcgctaccag ctrcagcgtg gggttgtggt cctggccaag agctacaatg       960
agcagcgcat cagacagaac gtgcaggttt ttgagttcca gttgactgca gaggacatga      1020
aagccataga tggcctaaac agaaatgtgc gatatttgac ccttgatatt tttgctggcc      1080
cccctaatta tccatttttct gatgaatatt aacatggagg gcattgcatg aggtctgcca     1140
gaaggccctg cgtgtggatg gtgacacaga ggatggctct atgctggtga ctggacacat      1200
cgcctctggt taaatctctc ctgcttggtg atttcagcaa gctacagcaa agcccattgg      1260
ccaga                                                                  1265
```

```
        <210> 96
        <211> 568
        <212> DNA
        <213> Homo sapien

        <400> 96
ccagtgtggt ggaattcggt ttaattacaa aatttgatca cgatcatatt gtagtctctc        60
aaagtgctct agaaattgtc agtggtttac atgaagtggc catgggtgtc tggagcaccc       120
tgaaactgta tcaaagttgt acatatttcc aaacattttt aaaatgaaaa ggcactctcg       180
tgttctcctc actctgtgca ctttgctgtt ggtgtgacaa ggcatttaaa gatgtttctg       240
gcattttctt tttatttgta aggtggtggt aactatggtt attggctaga aatcctgagt       300
tttcaactgt atatatctat agtttgtaaa aagaacaaaa caaccgagac aaacccttga       360
tgctccttgc tcggcgttga ggctgtgggg aagatgcctt ttgggagagg ctgtagctca       420
gggcgtgcac tgtgaggctg gacctgttga ctctgcaggg ggcatccatt tagcttcagg       480
ttgtcttgtt tctgtatata gtgacatagc attctgctgc catcttagct gtggacaaag       540
gggggtcagc tggcatgaga atatttttt                                        568
```

```
<210> 97
<211> 546
<212> DNA
<213> Homo sapien

<400> 97
ttgtaccgta tctgtaggca tcctgtaaat aattccaagg ggaaaactaa acgaggacgt     60
gggttgtatc ctgccaggtt gagtgggggct cacacgctag ggtgagatgt cagaaagcgc   120
ttgtattta aacaaccaaa aagaattgta agggtggctt gctgccaggc ttgcactgcc     180
gttcctgggg gtgtgcatct tcgggaaagg tggtggcggg gcgtccacta ggtttcctgt    240
cccctgctgc tccttccgta agaaaatgaa atattctatg cctaatactc acacgcaaca    300
tttcttgtac tttgtaagtc gtttgcgaga atgcagacca cctcactaaa ctgtaaacgg    360
taaagagatt tttactttg gtctccgtga gtcgcatctc tactaaggtt tacacaggaa     420
ttccacctga agacttgtgt taaagttcta cagcgcgcac tgttaactga acgtctttt     480
cttcagccta tacgcggatc cttgttttga gctctcagaa tcactcagac aacattttgt    540
aactgc                                                               546

<210> 98
<211> 547
<212> DNA
<213> Homo sapien

<400> 98
tactgggtgc caagctatgt gccaggcact ttacatgtat tgatttaaca cttaacagcc     60
actctatatt attcccttt tacagatgag gcaatttaag ctcaaagcat ttaagtagac     120
aaccaaccta gaatcacata gcaaatgaca gaagccagag gcctcccaag tctctctaac    180
tccaaaccct atgcttactc tactatatca cactaccttg caataggaca aagggaatat    240
gtggtaaact atgttcccag catctaaaag ccaggagtgg tttcatttt tctttaagaa     300
gatgatagtg tgatttgaaa catatctgaa tttcagaaga ggggacttt aaaaattgcc     360
actcataagg aaagaaagaa ctttttcaca tattttgaa agaaacgatg gtgagaagat     420
attcttgata atagagatat gctaacattt gctttgggtg ttttgtaggt tagatttttt    480
tggtgtgtac tttataggct tgcatattgc ttactttaaa cagctgaagt tctaagtaag    540
agtgttc                                                              547

<210> 99
<211> 122
<212> DNA
<213> Homo sapien

<400> 99
cagcctttct gtcatcatct ccacagccca cccatcccct gagcacacta accacctcat     60
gcaggcccca cctgccaata gtaataaagc aatgtcactt ttttaaaaca aaaaaaaaa     120
aa                                                                   122

<210> 100
<211> 449
<212> DNA
<213> Homo sapien

<400> 100
ctgacggctt tgctgtccca gagccgccta aacgcaagaa aagtcgatgg gacagttaga     60
ggggatgtgc taaagcgtga aatcagttgt ccttaatttt tagaaagatt ttggtaacta    120
ggtgtctcag ggctgggttg gggtccaaag tgtaaggacc ccctgccctt agtggagagc    180
```

```
tggagcttgg agacattacc ccttcatcag aaggaatttt cggatgtttt cttgggaagc     240
tgttttggtc cttggaagca gtgagagctg ggaagcttct tttggctcta ggtgagttgt     300
catgcgggta agttgaggtt atcttgggat aaagggtctt ctagggcaca aaactcactc     360
taggtttata ttgtatgtag cttatatttt ttactaaggt gtcaccttat aagcatctat     420
aaattgagtt cttttttctta gttgtatgg                                      449
```

```
        <210> 101
        <211> 131
        <212> DNA
        <213> Homo sapien


        <400> 101
ccatgttctc tcttgactac gcatatgtga gatttgcccc tccgccccgc tcgtgatagc      60
catccagatc ttttacctgg ccctgtcttg gagaatctgt tttcaatctc cactgattgc     120
ccccttgctg g                                                          131


        <210> 102
        <211> 199
        <212> DNA
        <213> Homo sapien


        <400> 102
ctgctgcgcc tgatgctggg acagccccgc tcccagatgt aaagaacgcg acttccacaa      60
acctggattt tttatgtaca accctgaccg tgaccgtttg ctatattcct ttttctatga     120
aataatgtga atgataataa aacagctttg acttgaaaaa aaaaaaaaaa aaaaaaaaaa     180
aaaaaaaaaa aaaaaaaaa                                                  199


        <210> 103
        <211> 321
        <212> DNA
        <213> Homo sapien


        <400> 103
tttttaggt tttaaactt tttatttgca tattaaaaaa attgtgcatt ccaataatta       60
aaatcatttg aacaaaaaaa aatggcactc tgattaaact gcattacagc ctgcaggaca     120
ccttgggcca gcttggtttt actctagatt tcactgtcgt cccacccca cttctttcac     180
cccacttttt ccttcaccaa catgcaaagt ctttccttcc ctgccaccca gataatatag     240
acagatggga aaggcaggcg cggccttcgt tgtcagtagt tctttgatgt gaaaggggca     300
gcacagtcat ttaaacttga t                                               321


        <210> 104
        <211> 309
        <212> DNA
        <213> Homo sapien


        <400> 104
tttttttttt tttttatttt tttttttgca tcaaaaaact ttatttccat ttggcccaag      60
gcttgttagg atagttaaaa aagctgccta ttggctggag ggagaggctt aggcaaaacc     120
cctattactt tgcaaggggc ccttcaaaag tctctgggct tctatttcaa ccgcgatgat     180
gtggctctgg aaggcgtgag ccacttttc cgggaactgg ccaaggaaaa gcccgagggc     240
tacaaccgtt tcctgaaaat gcaaaaccag cggggcggcc gcgctctttt ccaggacatc     300
aaaaagcca                                                            309


        <210> 105
```

```
<211> 591
<212> DNA
<213> Homo sapien

<400> 105
cttatttctg catgggtcgg agagtgggcg ggactgcttt actgagttat agtgaatgta      60
gttttaacct aagcgcctca catgactaac tcctcatcca tcaagaatga gctcagctct     120
cacttcccca ctcctcaccc ccctgtaaag taacctttct ccaaggttat gcttcaacag     180
gaatagctaa catttattaa attgtggcac gtaagtatct tggatatatt ggctcattga     240
atcctcacac ctactatttt acagagatgc cagtggggct tgagattgaa tcacttgccc     300
aggctcccac tgctggtaaa cagtagaggg ggctcctgac ccatcagtct ggcttgacaa     360
cccattccct caactgcgga tcccggattc ccttatcacc ctgttgattt ctccataggc     420
tgtggtaaca tttgttgcat gaatggaccg ttgaaatagg gcctggcagg gagaaattca     480
ggaaatgaat gaatggttct tccctggcag cctttgatga cttacaagcc ccttcaaggg     540
ggaaagccat ttttctccct gggactcctt gaaagcccgg gagccctgcc t             591


<210> 106
<211> 450
<212> DNA
<213> Homo sapien

<400> 106
ctgccactcc tgcctctgct accccgaaac cggagaggga gctcaataat aacacaggtc      60
ccactaaact aattaaggtg ttggcataac ctgtcattga attcaagtgt ccaacaactg     120
tttgcttaaa atatcattag acctaatatt tttttcaaag gcacaaagtt taaacatggg     180
gggggcgggt gttgagaggg gtctgggata cccttaaacc caaaaaagtg atttgttccc     240
ccttgcccag aagggtgact gttccactgg gcctgtcacc acaggacatt ttccatgaca     300
agcactcacc ttcttgggga aggggcatca ggttggcaca ggaaaggccc aagtgagggg     360
ccactctgta cattaatact ttggtgatta atgtttgggg agaggcagga ttctcaccca     420
ccttttttgac ttcaaacact ctcactcaag                                     450


<210> 107
<211> 116
<212> DNA
<213> Homo sapien

<400> 107
tcgacgaaag ttactgtcac tcagttgtaa atccatcagc ttttcacctg ttaaaaattt      60
tgcaaaatat acatgttctc ctcctgtttt caattcttcc atcttttttc ttgagg         116


<210> 108
<211> 291
<212> DNA
<213> Homo sapien

<400> 108
ctgctcgaag ttgtcaaaac ccacgtgcag ggcaatggag agtccgatgg ccgaccacag      60
cgagtagcgt cctcccaccc aatcccagaa ctcgaacatg ttttgagggt caattccaaa     120
ctccttcact ttggttgtgt tagtagacag ggcaacaaag tgcttcgcca ctgcagtagg     180
atccttggcc gcctggagaa accactcctt cgccgtctct gcattcgtga tggtctcctg     240
ggtagtaaag gtcttggagg caatgatgaa cagggaggac tcggggttca g             291


<210> 109
<211> 662
```

```
<212> DNA
<213> Homo sapien

<400> 109
gctgtttcca cagtacgcct gcctcacacc ttgcgatgcg ccaacatcac catcattgag      60
caccagaagt gtgagaacgc ctaccccggc aacatcacag acaccatggt gtgtgccagc     120
gtgcaggaag ggggcaagga ctcctgccag ggtgactccg ggggccctct ggtctgtaac     180
cagtctcttc aaggcattat ctcctggggc caggatccgt gtgcgatcac ccgaaagcct     240
ggtgtctaca cgaaagtctg caaatatgtg gactggatcc aggagacgat gaagaacaat     300
tagactggac ccacccacca cagcccatca ccctccattt ccacttggtg tttggttcct     360
gttcactctg ttaataagaa accctaagcc aagaccctct acgaacattc tttgggcctc     420
ctggactaca ggagatgctg tcacttaata atcaacctgg ggttcgaaat cagtgagacc     480
tggattcaaa ttctgccttg aaatattgtg actctgggaa tgacaacacc tggtttgttc     540
tctgttgtat ccccagcccc aaaagacagc tcctggacct gcccccgggg cggcccgctc     600
ggaaaggggg cgaaatttct tcaagaatat ttccatttcc acaaacttgg ggccggggggc     660
cc                                                                    662

<210> 110
<211> 323
<212> DNA
<213> Homo sapien

<400> 110
tcctgtgaaa cagcccattt tcctacctac tgtgggttgc tgctcaggag gaacgatata      60
cgccaataca agcaggaaat ctgcagctcc tctgctatgt gcctcagaac actttcaatt     120
tttctggtca atgctctgat taggtatcat acataaaagc cagcatatta gtttaaatct     180
ctaacaaaaa actatatttt ccaaagtcat tatcatttgg gccaattaag tgatcttttc     240
gtgctttgtt gagcttcatc tttagggcat ctcttctttc ttcccattca tgaagttcgg     300
catttccatg tgcaaattta cag                                             323

<210> 111
<211> 336
<212> DNA
<213> Homo sapien

<400> 111
tccagtgcgc tccagcctta tctaggaaag gaggagtggg tgtagccgtg cagcaagatt      60
ggggcctccc ccatcccagc ttctccacca tcccagcaag tcaggatatc agacagtcct     120
cccctgaccc tccccttgt agatatcaat tcctaaacag agccaaatac tctatatcta      180
tagtcacagc cctgtacagc attttcata agttatatag taaatggtct gcatgatttg     240
tgcttctagt gctctcattt ggaaatgagg caggcttctt ctatgaaatg taaagaaaga     300
aaccactttg tatattttgt ataccacct ctgtgg                               336

<210> 112
<211> 218
<212> DNA
<213> Homo sapien

<400> 112
tttttttttt tttttttttt tccagtcagg agtattttta atcactgtct acagagacac      60
ctacatacac acgggtgg ggaatgaacc caaagttttt aggtgaagtc tctcagggcc     120
caccccgtgc cacagacctt cctcggttgc agagattctg ggcaaagcat ccgtgctctc     180
atgagattat cctggggaga tttagaagaa ttttgtgg                            218
```

```
<210> 113
<211> 533
<212> DNA
<213> Homo sapien

<400> 113
ctgcaccgac agttgcgatg aaagttctaa tctcttccct cctcctgttg ctgccactaa      60
tgctgatgtc catggtctct agcagcctga atccaggggt cgccagaggc cacagggacc     120
gaggccaggc ttctaggaga tggctccaga aaggcggcca agaatgtgag tgcaaagatt     180
ggttcctgag agccccgaga agaaaattca tgacagtgtc tgggctgcca aagaagcagt     240
gcccctgtga tcatttcaag ggcaatgtga agaaaacaag acaccaaagg caccacagaa     300
agccaaacaa gcatcccaga gcctgccagc aatttctcaa acaatgtcag ctaagaagct     360
ttgctctgcc tttgtaggag ctctgagcgc ccactcttcc aattaaacat tctcagccaa     420
gaagacagtg agcacccta ccagacactc ttcttctccc acctcactct cccactgtac     480
ccacccctaa atcattccag tgctctcaaa aagcatgttt ttcaagatct aaa           533


<210> 114
<211> 261
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(261)
<223> n = A,T,C or G

<400> 114
ccatatctgc tcggcgctac ttctttcttg gattgatcct gantgatgca ttggcgatgc      60
ctttggagaa ggacatgtga tgtgatggtc ttcacgttcc acatgtactc gggcaaatag     120
ggggacaaac tgaagttaaa caggtcgaaa ctagaggagc tgctgaccct ggagctgacc     180
actttcttgg ggaaaaggac acatgaaggt gctttgcaaa agctgatgag caatctggac     240
accaacatag gacaacaacg t                                               261


<210> 115
<211> 267
<212> DNA
<213> Homo sapien

<400> 115
cctctcctgt gggttccaga ccctgttcca gcaacaattg ctgggacacc tgggccgact      60
gctccacctc gccaggccct ggccctctcc atctcagccc tgacagccac ccagtgataa     120
acacagcagg cttcctaagc aatgtgacgc accagagggg tggtggtaca cgttcccctt     180
gaagtcatct gaaaattaga gaacagattt gcctcatagc tgaagagaga ccctattcca     240
agcatgaatg gccttgacaa tgttcct                                         267


<210> 116
<211> 239
<212> DNA
<213> Homo sapien

<400> 116
ctgatgacct ggggtctagt gaaaatgcag ggtcagattc agtgggtctg gggtctgaat      60
ctctaaggcg ctgccaagtg atgctgatgc tcctggcttg tggaccaccc tgtgtatagc     120
aaagctctag actaggaggt ctcaaccttg ctgcacaga attatctggg gagtttttaa     180
```

atttcccagt gcccaggctg cattcatatc atagtagaga cagggttttg ccatgctgg   239

```
        <210> 117
        <211> 168
        <212> DNA
        <213> Homo sapien


        <400> 117
aaaaaacttt tatattgctg catcttccac agttctttgg gtagtctctg aacttaaaat        60
ttgtaggagt tgtagactac ctaaattttt aagttatgga tttgttcata ggttgtaggg       120
gtaggtaaag aaggaaacag acaagaaaat ggcttcttga ggtggcag                   168


        <210> 118
        <211> 150
        <212> DNA
        <213> Homo sapien


        <400> 118
aaaaaaaaga gtttatttag aaagtatcat agtgtaaaca aacaaattgt accactttga        60
ttttcttgga atacaagact cgtgatgcaa agctgaagtg tgtgtacaag actcttgaca       120
gttgtgcttc tctaggaggt tgggtttttt                                       150


        <210> 119
        <211> 154
        <212> DNA
        <213> Homo sapien


        <400> 119
aaactgtgtg agatattaac cagccgccct gttataaaat caggaaatcc aaacagcgat        60
ttacaccgat taacaccccc ttttatattt tttcaaatac actgagaaaa taatcaaacg       120
ttttcatctc tcttgtcttt ttttgttttt tcct                                 154


        <210> 120
        <211> 314
        <212> DNA
        <213> Homo sapien


        <400> 120
ctgcgtggag tgacgggagg agggaatcac tgtgtgtgcg agagtgcttc agactcaatt        60
tccaaaataa ttttcacccc tctaagcatg taaattcaaa gatggatcct tcatagaaat       120
taaaaaatca atttgagctc atttcgaata cagaacaagt atggcacaga tggaagtcct       180
gccacgtttc ctttaatgat gctgactctt gtatcacaca ggccagcatg aagtttctta       240
ctcagacttt acaggcattt ccgtaattc aatcagtcct gctcccagca caacacagga       300
ggtgattcga gaat                                                       314


        <210> 121
        <211> 601
        <212> DNA
        <213> Homo sapien


        <400> 121
aaaaaaaacc taattcattg aagtaataac caaataattt tcaatcttga ttcaactgtg        60
attcaaatct tacaccattt gccccttcta tgaatttatg tataaaattt tttaagagtc       120
agagtttttt tttcttgatt aattggatgt atttcacaga atttccaact gctcacgtta       180
```

```
gttttcttcc ttttagagtt gatctctcta atgtattaga tcttcatgcc tttgatagtc      240
tctctggaat aagtttgcag aaaaaacttc agcatgtgcc aggaacacaa cctcaccttg      300
atcagagtat tgtacaatca catttgacgt accaggaaat gcaaaggaag aacatcttaa      360
tatgtttatt cagaatcttc tgtgggaaaa gaatgtgaga aacaaggaca atcactgcat      420
ggaggtcata aggctgaagg gattggtgtc aatcaacgac aaatcacaac aagtgattgt      480
ccagggtgtc catgagctct gtgatctgga ggagactcca gtgagctgga aggatgacac      540
tgagagaaca aatcgattgg tcctcattgg cagaaattta gataaggata tccttaaaca      600
g                                                                       601
```

```
        <210> 122
        <211> 486
        <212> DNA
        <213> Homo sapien
```

```
        <400> 122
ctgtttctaa ttgcttttgt gactgttacc ttttagttca tgcccccca aagagctaaa        60
tttcacattt ttacctacaa aattgatttt taattcctgc aaataattta ccattatgag       120
ctacaaggtg ggcaacagcg cctgaggatc taattttatg catattactc ccaagtattt       180
taacacttgt tggagaagca atatctggat caataaaaca ctgtcccatc aaccatttga       240
gtggggagag ggagaagctc ttctgtaagt aagattctgg caagctcttt gaaatgagtc       300
ttctttccca cagattttct ctactctttc aatacaaaca gataggagaa gagggaatag       360
aaacctggag gaacttgaat atttttgttc tagatagaga tacagttatt gaaaaggaaa       420
cctagaaagt agtcacacgt cgcttattta ggccagaagt aattgtactg ggcaaaaatt       480
tcactt                                                                  486
```

```
        <210> 123
        <211> 239
        <212> DNA
        <213> Homo sapien
```

```
        <400> 123
ctggtgggtc tttttttcct ctcagagctc aagcctgtag tgcctgatgt catttctttc        60
aagttgccca cagtatctcc acttaaacta ggctagtaac caaaataatg tggaccttct       120
ttaggaaaca gtgtgggaga ataggagtcc agccgtaaga taaactggaa atatttgggc       180
gtcttgtacc tggctacgca ccacctcagt gttgttccta cataaacaag gcccctttt        239
```

```
        <210> 124
        <211> 610
        <212> DNA
        <213> Homo sapien
```

```
        <220>
        <221> misc_feature
        <222> (1)...(610)
        <223> n = A,T,C or G
```

```
        <400> 124
ccanccaagt cnttgatgat cactgacccn cgcgcgcctg ctggaccaag gtggctgcgg        60
ggaaatcgcc acgngngcttt cggttttctt ggtgaaggaa tacaccgcgc cgacagcagg      120
ttttcagtca gggtcaggga ctgttgcttg cgcgcgaaaa tcaccggtac gccgaggttc       180
aggccggtca tgatcgccgg tgcaatgccc gaggcttcga tggtgacgat cttggtgatg       240
cccgaatcct tgaacaacgc agcgaattca tcaccgatca gtttcatcag cgccgggtcg       300
atctggtggt tcagaaaggc gtcgaccttg agtacctgat cggaaagcac gatgccttct       360
tcgcgaattt tcttgtgcag tgcttccacg aaagcttcct ctgttggcgc aacacgcgcc       420
```

```
gaaagtagat taaaaagtag tcgattctag cgctttaaca tcgcgcgtat atccgccagg    480
gcggtattgc cgcgaacggc tttgacttcg gttggtgtgt cgtcgttgcc ttcccatgcc    540
aggtcatccg gcggcagttc gtcaaggaac cggctggggg cacaatcaat gatctcgccg    600
tactgcttgc                                                           610
```

```
        <210> 125
        <211> 196
        <212> DNA
        <213> Homo sapien


        <400> 125
ctatagggct cgagcggccg cccgggcagg taaaaaatca gcccctaatt tctccatgtt     60
tacacttcaa tctgcaggct tcttaaagtg acagtatcct taacctgcca ccagtgtcca    120
ccctccggcc cccgtcttgt aaaaagggga ggagaattag ccaaacactg taagctttta    180
agaagaacaa agtttt                                                    196
```

```
        <210> 126
        <211> 247
        <212> DNA
        <213> Homo sapien


        <400> 126
aaattagtta aaaaaatgca ttcctcattt gatatagcca cattccaaat gcttaaaagc     60
cgcatgtatc tagtgactac catactggag agtacaaata tagaacttta cccgtcactg    120
cagacagttc tgttggattg tgcagcattg gacaatatat acagtttgcc tgtatatgag    180
aaagagagag agagagagag tgtgtgtgtg tgtgtgtgtg tgaagtgcaa taaggctgac    240
aggcatc                                                              247
```

```
        <210> 127
        <211> 590
        <212> DNA
        <213> Homo sapien


        <400> 127
cctccacggc atggcgcaat tgttgttcag gggccgccag gttgctgccc atgccgatgt     60
agatacgttc cacgtgctta ctcgccagac gcactcgaag cgtcgccagc gctacgtttg    120
cgcttgctgc cactgctgcg gcgacgcttt ttcgggccat cgccggtggc ttcgcctttg    180
ctgctgagct cttttgatcat ctcgcggcgc tggctgtcgt tggcgtcctg gtagtcggtc    240
caccactcgc caaggccgtc ggtctgttcg ccggcgcttt cacgcagcag caggaagtca    300
tagcccggca cggaagcgcg ggttgtccag caacaggtcg gcacgtttgc cgctgcggcg    360
tggcaggcgc tcctgcatgt cccagatttc acggatcggc atggtgaagc gtttcgggat    420
ggcgatgcgc tggcattgct cggcgatcag ctcgtgagca gcttcctgca tggctggaat    480
tgccggcatg ccacggtctt gcaggcgcat gacgcgtttc gaaagcgcgg gccacaacag    540
ggcggcaaag aggaacgccg gggtgaccgg tttgttctgc ttgatgcgca                590
```

```
        <210> 128
        <211> 361
        <212> DNA
        <213> Homo sapien


        <400> 128
ctgcccatgg aaaccctcca ggagctgctg gacctgcaca ggaccagtga gagggaggcc     60
attgaagtct tcatgaaaaa ctctttcaag gatgtaacca agtttccag aaagaattgg    120
agactctact agatgcaaaa cagaatgaca tttgtaaacg gaacctggaa gcatcctcgg    180
```

```
attattgctc ggctttactt aaggatattt ttggtcccct agaagaagca gtgaagcagg    240
gaatttattc taagccagga ggccataatc tcttcattca gaaaacagaa gaactgaagg    300
caaagtacta tcgggagcct cggaaaggaa tacaggctga agaagttctg cagaaatatt    360
t                                                                   361
```

        <210> 129
        <211> 546
        <212> DNA
        <213> Homo sapien

        <400> 129
```
aaaaatacaa attcagtaag acttttgctc taacaacaat ttttcaaaac gaatcaacaa     60
caaaaaagta tccagtgttt cttttcttat gaagatataa taaaacacag tattggtaag    120
cacattttaa cagtatgctt ttcttttgta gggaaaggag atatggctat gtctaacatc    180
gtgggatcca atgtgtttga tatgttgtgc cttggtattc catggtttat taaaactgca    240
tttataaatg gatcagctcc tgcagaagta aacagcagag gactaactta cataaccatc    300
tctctcaaca tttcaattat ttttcttttt ttagcagttc acttcaatgg ctggaaacta    360
gacagaaagt tgggaatagt ctgcctatta tcatacttgg ggcttgctac attatcagtt    420
ctatatgaac ttggaattat tggaaataat aaaataaggg gctgtggagg ttgatattat    480
taatagtgtt atgcagaaaa tatgaatggc agggaggggc agagagaaaa atccatttct    540
tcattt                                                              546
```

        <210> 130
        <211> 733
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(733)
        <223> n = A,T,C or G

        <400> 130
```
ggggcctctt cctaaaggca ctaatcccat ccaatagggc ttaacctcat gacttaatca     60
actttcaaag acaccacatc ctaatgccat cacatcagaa tttaggcttc aacatatgaa    120
ttttgggggg acacaaacat tcacctcata gcattcattg tttcttgtta ttggcaaagc    180
caagactcac attgtctaag ttatttgact tttgagtccg cagatgtgaa aacagtgcta    240
aacagtccag cttcatgagt ggagaacagc atttgtgaca accaccaaag tacctctgtg    300
gtcagtgtcc tcaaccaggg cacagcatca tggaccagag cctctgcagg gcacagagga    360
gtggtgagga acaggggctc tggagcaacc ccacttccct ctgctttgta tatggggggt    420
tctgcacatg actgcatttg aaaagggctt cactgcgctt gctgaaggag tgcacttgag    480
ctagcggaga gttcccagag ggtgtctgga agaagcaaag gctattcttt gtttcactca    540
gttatagatg gaagtcagac acttctgcct gaagtacttt cacacactcc acagtcttaa    600
gaaggatgga naaagcatgc caactactca naaaaccaca ggtgttcaag caatggtatc    660
cttttatncc tacaactagt ggacaaagng gggcctctgt aatttgggaa agctaggaaa    720
acttttctg ggg                                                       733
```

        <210> 131
        <211> 305
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature

<220> (1)...(305)
<223> n = A,T,C or G

<400> 131
aaacacatac gaatanttna actgtgatta tgaagtgaca gccggctaaa tatgtcttgt   60
attttctctc ttccttttt tgctaactca tcctttattc cattcctgct tccatggtaa   120
tgcaggctca aataaattac taggatacaa gattacttca agcctctttt ctgtggaact   180
cataatatga taagcatttg ttacaagatt gcctgtagtt gtttaggga caaattatat   240
tagggaaaga aagtctttct ttagttggtt aaattttcta ttataattgg gtactaaatt   300
tattt   305

<210> 132
<211> 545
<212> DNA
<213> Homo sapien

<400> 132
aaacaatgct acactcattt ttggcaaagt gctgtattgt tcagtctgtg tacaaaactg   60
accatctatg aaccaatcag tataaaaaat ttctataaaa acaaaattta gacagcggct   120
caagaaaaca agctgccatt tatgcataga ttgatgtaca gtaacctaac caaatgtccc   180
ttttgaattt tcaagttact gaaaaaaaat gtgtcgagaa acacattaag aaggcacatg   240
tacagtctac aatactcttc agtctcccta actcatgccc tgcccctata aaggaaatat   300
gttcacaatt ttacttgaga aaaaaaaaca aagccactta aaaaaaaaaa aacacacacg   360
caattattaa agttcaaaat ctctggagga aaatacaagc aaaaccactc atacactcca   420
agcctgaaac acacatctaa cctcccagg tactggtttg gttttcagag gtccacctag   480
aaaacaaatc taaaacttca ggcaaaacag agcaaaactg gacatttaac aattacacaa   540
ttttt   545

<210> 133
<211> 330
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(330)
<223> n = A,T,C or G

<400> 133
aatatttatt actaatatct tataatgttt tgtggnacca tggcatacct tgggtactat   60
tgtaacanat agttcaggaa accctactat aaggtttatc aaatggtctc ataaacagtt   120
acttattcaa gcacgccaaa gctcagtgaa aagtattttt caccccttact ctttctcgtg   180
tcattcaaag agaagtttg atgtagtgta tttatttgta gggagtaatg aacagatcca   240
tttcacagta gactttgtgc tctaggtgat gcagctaatt gccccagttt ggaaaacatg   300
gacttggatg aattgtcttt tgtttgggac   330

<210> 134
<211> 627
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(627)

<223> n = A,T,C or G

<400> 134

```
aaatattact tcaaatacat tttaaagctc aacaaacttg tgttgaactg aattgcagat     60
cctgaactct atttgaaaat acatcatgaa acagaaaanc ccattccaaa tgaaaatgat    120
agtgctttgt tgggggtggg aatgaggcgg ggagactaaa tcactattaa cagacttctt    180
ttcccaatgc aatttgtcaa aagttcaaaa gttctgaaat gtactaaatc ttaagcaaat    240
taaattcatg atattactaa aacttttaa atagtgcaat gacttatcaa gttatagtgg     300
ctgcattaag aacaaattat tgtgtgaaat acctgtataa acacaaaata caattaaata    360
tttctttaca aaaagctgag cattacgcat aatagtggaa tgtctttcat taggtgtatt    420
ttttaaagat taacaaaagt aacatttcct aaaatgtata catgtgccat atttttgcaa    480
acatgcctga gaatgtattt aaaacatttc tgtagtaaga gtttgcaaga acttcacaaa    540
cctgcaaata aaatgcatct tttttaaaaag gtgaaaatgg catctccaca ctgcaacaat   600
tcaaaaagtg cagcatccct aatcttt                                        627
```

<210> 135
<211> 277
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(277)
<223> n = A,T,C or G

<400> 135

```
aaaatcaaat atattatttg ttaaaaatca gcttgtttca ttacnggaaa ttacaccagt     60
ccgttctatt tactttcaaa ccatattcaa ctcctcaact ttcaaacatg taatcaacta    120
atttcaaaag ggaaaaggta ccctttataa aggagagatc tgttaagaca ccaagaaatc    180
aaaattaata tcacttaata attaagtgga taacacatgc ctcccaatac agtgcagtga    240
gaaacacaaa acatcaattc ccgcgtactc tgcgttg                             277
```

<210> 136
<211> 486
<212> DNA
<213> Homo sapien

<400> 136

```
aaaacagaat gaattcattg ttacagttac agaagtcaga agcccaaata cagtctgcct     60
gaaccaaagc cagggtcagc aaggttcctt tccactgttt tgccaacttc tagaggccac    120
ctgtattcct tggttcatgg cccctctctt catcatcaaa taatcagcat agctttatga    180
cattggcagc tctgattttg ctcttttgcc ttcctcttat gtagacctt gtaattacat      240
tgggtacacc cagataaccc caaataatct ccctatctca agattcttaa tgtaattata    300
ttgggaaagt cccttttgtc atataagata acatagcaat ggattccaag gattagtatg    360
tgagtttctt ttgaggggct ataattaacc ctaccacaat atggaaatgt ctattgtttt    420
tctatgtacc agaaataaga cattaggatg tgaaattaat aacataacac cacttacggc    480
atcacc                                                               486
```

<210> 137
<211> 552
<212> DNA
<213> Homo sapien

<220>

<220>
<221> misc_feature
<222> (1)...(552)
<223> n = A,T,C or G

<400> 137
ccatcttgca tcaaatgttc ttaaggcagt gactggctat caaccacagt ttctgtctcc   60
ccagttgcaa acacaggatc catgcaacag ttctgagacc atacacttag aaaccacagg   120
ggatgcggat caaatgcaga actcccaaat tataaaacag tcaggctaca ctcaaaacaa   180
aacatagaac atcaacaaca cacatctccc aaaaaagaag tgcaacgcat gcttgtataa   240
accaacaata acaaaaaaac cacaataaaa aatgcagagt ctcccaaaca agttttcaaa   300
tgtattgcan aaagaaaaaa aatgtatata tatataaaat taaaaagtct gaaatactag   360
tgcatagtca attacctaac accaagtttc ttttctttct gtccaagctc tactgcccct   420
ctgatactag cagcatgtct acaggctaag accatagcag caaaaaacgt ttttcatttg   480
gcatttacaa aattaaatta ctgaataaaa atataatttt ttataaaact atttcttaca   540
gtaataattt tt   552

<210> 138
<211> 231
<212> DNA
<213> Homo sapien

<400> 138
aaattttact agtgttactt aatgtatatt ctaaaaagag aatgcagtaa ctaatgccct   60
aaatgtttga tctctgtttg tcattacttt ttcaaaatat ttttttctgt aaagtataat   120
atataaaact tcttgcttaa attgaatttc tatattagtg gttaattgca gtttattaaa   180
gggatcatta tcagtaattt catagcaact gttctagtgt tttgtgtttt t   231

<210> 139
<211> 535
<212> DNA
<213> Homo sapien

<400> 139
cagttgccaa ccctctgaac cgtttaggcc ggttcatcgc tgcctttgaa tctgggccgg   60
tggtgatccg gcaagggggtg aaaccaaaga gcgggggctg tgaggccctt cgcagtccct   120
cgtaagtcgc tgcgatggag tgaactatca cgcatcgtgt ttatttcgtc aacacgaaat   180
gtgatttatt tttgcgaatt aacacggcag ttctcggtta cgtttcgga aagcgtggga   240
tatgattctg tctatcctgt acggatatac agtaattacc gggaggggat tccatggcga   300
agaagcaggc ggcaccggca gcacggcagg aaatgagcgg tatggcgcgc ctcgggcttc   360
gcgtctcatc gatgattaat cacccggtcg cccagacgca cgcgctgggtt acgattcatc   420
gcctggacac ggatggggat cgggagtggg aagaggttct gagcgtgatc gctgataccg   480
acgagctcga gctgacgctc aatgacgatg gcagtgtgac ggtgaggtgg gagca   535

<210> 140
<211> 640
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(640)
<223> n = A,T,C or G

<400> 140

```
acattggtgg  cacttgaact  gagtgcaaac  cacaacattc  ttcagattgt  ggatgtgtgt        60
catgacgtag  aaaaggatga  aaaacttatt  cgtctaatgg  aagagatcat  gagtgagaag       120
gagaataaaa  ccattgtttt  tgtggaaacc  aaaagaagat  gtgatgagct  taccagaaaa       180
atgaggagag  atgggtggcc  tgccatgggt  atccatggtg  acaagagtca  acaagagcgt       240
gactgggttc  taaatgaatt  caaacatgga  aaagctccta  ttctgattgc  tacagatgtg       300
gcctccagag  ggctaggtta  gtacaaactc  gcattcatgg  cttggtttcc  cagaagatct       360
ccatttaact  tttttaaaga  aagtttattg  ctttctttaa  cctgcatttt  ttctaagttt       420
tttttcgcat  aaaggtgctg  tctttgtggc  aaggcctagg  catgacaatc  ggaggactcg       480
aggggggatgg aggactagtg  atccggctgg  ctgcttccag  tcgattagag  aggtgaaaaa       540
gctgaacgtg  tgcccantna  atcttcaaaa  aggcagaaac  atatcacctt  ntgccccnt        600
aaacttgttc  ttttccgaa   ggggaaaaaa  aaaatggaaa                               640
```

```
        <210> 141
        <211> 127
        <212> DNA
        <213> Homo sapien


        <400> 141
aaaaatcaca  cactgacaac  acagaaatac  gaaatgctag  gaaaagtcta  gcatatgaag        60
gaaaaacatg  tcttatgcac  tctaatataa  tttttttcaat  tagtataaag  gcaaatgcgg       120
tttttttt                                                                     127
```

```
        <210> 142
        <211> 126
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(126)
        <223> n = A,T,C or G


        <400> 142
aaatatcctc  tggatgcntt  caagtaatac  taatcatttc  atgngnaaaa  gtcttttaat        60
aaacaaattc  agagtaaaat  taattgaaat  atttataata  catttgttac  acagttattt       120
ccaata                                                                       126
```

```
        <210> 143
        <211> 730
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(730)
        <223> n = A,T,C or G


        <400> 143
gcaagttctg  gagtgttcac  ttctgagcct  gaattccctc  ccctgcaaaa  tgggggaata        60
ccctcctcag  agggtccctg  cgagggtgag  gggagatcag  catggcaggt  gtgctgggca       120
cggcagggcc  tgggaagggc  agatcctttc  cccatccctg  ccacaaacaa  cccaaacctt       180
taaaggagag  caatggcctt  gtgtcaaaaa  caaaaacaaa  acaaaaccct  gtcctaggag       240
actggggccc  taatttctaa  tagcaagcct  ttatgagtcc  ctaacactct  actgggctga       300
gtatctcaca  cgccagagga  taacctgcct  tctgctcacc  accaccccgt  agtagttgtc       360
```

```
attgtgtcca tttcacagat gaggcaaagg ctcagaagag tcatgtgtta aaccagcttc    420
tagagcccat gcaggagctg caggtgggga gaatcacctc taggtgctct tcccatggaa    480
tcctcaccct ccttgagtgg tcactcactc ancttccaa tgggtgtgtg acctttgacc    540
agctttcttt ccttntctgg gcctcagttt cccaccttgg acaaagtaag aggtctcttg    600
ggnttcangg tagttcttcc taacttcttt ccttttcat ttgagcatcc ttcttcattt    660
tttgccacct ctcttgtcat tacangcttt taccttcggc cgcgaaccac gcttaagggc    720
naaatttcca                                                           730
```

```
        <210> 144
        <211> 485
        <212> DNA
        <213> Homo sapien

        <400> 144
ctggtcagaa atgattctct tgtgacacca tcgccacaac aggctcgggt ctgtcctccc     60
catatgttac ctgaagatgg agctaccttt cctctgtgtg gcattttgtc gcttatccag    120
tcttctactc gtagggcata ccagcagatc ttggatgtgc tggatgaaaa tcacctgtgt    180
tgcgtggtgg gtctgctgcc gccacttcta atcctcatca tgacaacgtc aggtatggca    240
tttcaaatat agatacaacc attgaaggaa cgtcagatga cctgactgtt gtagatgcag    300
cttcactaag acgacagata atcaaactaa atagacgtct gcaacttctg gaagaggaga    360
acaaagaacg tgctaaaaga gaaatggtca tgtattcaat tactgtagct ttctggctgc    420
ttaatagctg gctctggttt cgccgctaga ggtaacatca gccctcaaaa atattgtctc    480
aacag                                                                485
```

```
        <210> 145
        <211> 465
        <212> DNA
        <213> Homo sapien

        <400> 145
ccaagacagc tcgtttctgg agagtatgag ggtgtgtttt cttattgtga aaggaactac     60
cttctcttag agggtaggaa gaatgtggtg tgtgtgtgtc tcataaagca accggacatt    120
ataggtgccc aggtcatcta taaaaacgat ccttgggctg tgtaaaaatg aagtggcttt    180
tcagtatcct ctttcacact tgctgcttcg ggagactatg caatgatggg aaggtgattg    240
cccctttatt tcattcagtg ccatggtccc tgttgttgta gtaatttatt tgtttagttc    300
attttttttt tcttaacagt caaggggaag agtgattcct cacactgctt tcaagctgga    360
ctgagccagt ctcattctgg gaaagaaatg ctgtgtccag aactcagcag ctccatctat    420
tttttccagt cgaaagaaac tgatctttag gcagtttta cttgg                     465
```

```
        <210> 146
        <211> 351
        <212> DNA
        <213> Homo sapien

        <400> 146
ccagccgggg taatctgtat gtggcggact tgagctacga cgtgggcggc aagtgcctgt     60
ttgaccagat cagcggcgtg aagcttatgc caactcatcg tttgataaat ccgaggatca    120
gttcaagacg tcgcagcggg tgattttggg aacgtcgttt tcggtcagta aattgtgggt    180
agcgacggag tggttgatcg gcaagaatga tccgtatatt ggcgggagca gctataccga    240
gagcctgggg gctgggggga gtaaccagtg ggagaatcag ttatatatga acattgggta    300
ctacttctga cttaagatct ccagcgtttt aactggcctt atcgcaggca a             351
```

```
        <210> 147
        <211> 654
```

```
        <212> DNA
        <213> Homo sapien

        <400> 147
acttattttt aattactgaa tatttcttag acgttttggg acagatttta tgtaatcttt      60
ataagtatga tttctgaaga aaagcaaatg cattagtatg tttgccttaa acttgtagac     120
taaaccaagt attgtaaaat aaacagcgat aacagtgata gtttttaact ctatggtcat     180
tgtatcactc tggaaaatgt ggagtagctg taataaatct actcctgtat tatgctttac     240
agtgcaggtc ttagtttttc tttttctca tttcttttga aatggcatct cgaacaaagt     300
ccaccaatcc ctttacaaaa gaatgaactg ctcctctgtg tgtacttcat agaaggtgga     360
atcggacaga ggcaggttag tgacagttat tcctgaaata caggagcaga gtacagtctg     420
ttgtggtttc ccggattccg cgcctagctc agccaattaa gcatgagaca taggccattg     480
agccacttag tagttatgcg agtggataga ttggtatgta agagggaaag aggtctgctg     540
taaagaacaa cacttgtttg tctgtgggga aagaaaagca gaatcttgag atgaaagttg     600
gcatacaaat aggatactat cgccagtagg ttatattaca aaacatttat cggg           654

        <210> 148
        <211> 539
        <212> DNA
        <213> Homo sapien

        <400> 148
tgaatatcat gagggtgatt ttcacctgat tgcaaaactg ccatagtttg aaacactttt      60
tcaatttacc agacacactc tgtcaagact tcatatactt ccaacttgca agcctgtgtt     120
ttgccttctc caacctaaaa aggaaaagct ttaaacgatg aacttacatt ctattaaacc     180
atcagacttg agcttatcca tctgtttagc gtgaatgtac aaaccaggta catttccacc     240
aaacacatag aaaaatcttg tgcatcacag ttcagctaag ggtagtagga caatccttac     300
aatcctcctt ggatttcttt tttaagatgt caaagaagca ggtaagcaac attgttcatt     360
tgttactggg tgttctagat caaaccttca caagctatat atatagcttc atatgctata     420
gcttacaaat ggggtaacaa agtaaaagaa aagaacaaat tatactttga cactttatag     480
tcaaagtata attaaaaaag aaatcctaca gtgggtaatg gagaaataga taattttttc     539

        <210> 149
        <211> 273
        <212> DNA
        <213> Homo sapien

        <400> 149
tttttggtca ttctcctcaa ggagccgctg gatagtagtc ttgattgact tccaccttgc      60
ccctcataca gtccggtact aaggccaccg acatcccgag gaacctccgg aaccacgacc     120
gccaagcaac tcgacccacg ataggtgggg cctacgctct cgaagttgat tggatgctcc     180
cgcctacagg gcggggtaca gaagggacgt catttgtgac tggacgcgca agagctatac     240
tcagcagctt tcctctgtcc cagcccctag aac                                  273

        <210> 150
        <211> 200
        <212> DNA
        <213> Homo sapien

        <400> 150
gttttttacta ccgtatggcc catttaaaag ggatgtgtac gccttacact ataaccctta      60
aaccacctag aaatatgaaa ctcaaactgc cactgacctc cctcaccaag ctccataaaa     120
gtaaaaaatt ataacaaacc ttattaacca aactgaacga acatatgggc gattgattca     180
ttgcccccac aatcctaggg                                                  200
```

```
<210> 151
<211> 515
<212> DNA
<213> Homo sapien

<400> 151
ctgtagcgat ctttaagaat attttatata tgaaatctgg atttagggtt cccatggtct      60
ggcaccactg ggtacagtag ttctacatgg cagtaattca ttggagttga agcagtgagg     120
aaagagtcaa gtactagtct tttatcctca gtgtccagtg actgtcaaga gaaatgggac     180
tgccttctgc attgggatat gtgggttaaa gagtagtcca atatagaaga gtgagaaagt     240
gmaccctctg aggcatagta atgtttttatt kraaacatc tcacatgtat tgaatactta     300
sataggatgt attctgtatt actgaatttt ccagattatt gaagcaatca cctttctgtg     360
tttaaagttt tagaaagaat gcttttaaaa atgcttaaca taagataagc ctgttttcat     420
ggtgcaaggt cctttctatg aacatgaatc actggactct gagggttgga ctaagatcac     480
atctacatcc cttttaaatg actagtgtgc tcaga                                515


<210> 152
<211> 243
<212> DNA
<213> Homo sapien

<400> 152
atttcaacaa catacttgtc gaggtagtta taaatcttct taggggagg tggtggtttc       60
tgttggaatg ccaattttac agcttctgct gctgattcag gttctttaat tatgcttttc     120
tttgagtctg cttcagatag cacaacaaaa aaatgatgac acttttcaca cttgacaaaa     180
cgggtggatg atacaaaagg tctctacatg tgtgcacaag tcgccacatt taggacagcg     240
cag                                                                   243


<210> 153
<211> 620
<212> DNA
<213> Homo sapien

<400> 153
ttgtcttctc taccttacca tagccagttg ctttcatttt aaaccagagc aagtaacata      60
ttagtgactt gaatcttcat aagttaaagt aaaaaacagc aaaaaaccta gatctttgtc     120
ttttagaaca cagaccattt tcaggaaagc agttagctaa gtgtttaatt catgaatatt     180
gtatactgca tcccctacca caatttacac aatcctgtgg atagtcctac ctcaccctgg     240
tcaacctaca tgatccttaa gctaatggcg gatcacgatg accttgtaga catgcacaca     300
actatacctt tgtccaacag atcataatat atctgctatc caactggttt tacctgccta     360
atcctactga tttgggcact gcttgtatag tctctcaagt tcacaggaaa tgttgatttt     420
ctaaggtcct catttttaca gagtatacag gcaaagtgac aggggaaaag gaattagtct     480
aagagtaagg ggatgatttat tatattgagg ctaaaaccac aaagtggctc aggctttaaa     540
aaaaaacact gtggataatg acaaaaagca taagtaaaaa tattttgaga aaaataaagt     600
acaagttttg aacaccccc                                                  620


<210> 154
<211> 843
<212> DNA
<213> Homo sapien

<400> 154
cattgttagt gacccaagta aatttatagt ttttaagttc agaggaaaaa taaagcctat      60
```

```
ttttttgttaa cagtcttaat aaataataaa atggaataaa gaaaccaaaa aaaaaagaaa    120
aagtttgtat gaaaattcat ccctatttct ttattttgga ctaagtagtc aaatttctac    180
tatattaata ttatgtaagc gacacccatt taaattcact ctctttgata gaaaggtgag    240
ttgattatca cacctgctat tttttcactg ccaaaragac tgcaataacc tccctccatc    300
accctcaaaa aacaaacaga aaccatctga ggcatagcca ttgtttacat attgtgtttg    360
tgtgcaccta tctacaacgt tctttcttct aaggagttta tctgccaata ttttcggctt    420
cagcagcagc gctcttcttg acagactaag agaaggatct acagaaaagt catctgatta    480
aggttttggg tcaaattaaa actctctgga cagaatcctc tttccttcac ttggatttct    540
gcaaacagaa agcagattat tctcctggca caatagcgac tctagaaacg cttatgtttt    600
tcagactttg gcagaacttg ttaagaacag catcatcata atacatttgt acaaactcga    660
atttcagtgg ctcttttgtc ccacatgatg catgatgaaa tttataaagg tctgttttac    720
ccccacaggg tcatttcttt tgtgttccta cagagccaat aggcttcatt taagtccaag    780
ttattatatt aaccatccct ttcactagac tagagaactt ctttttcatg gtccatatcg    840
tga                                                                   843
```

```
        <210> 155
        <211> 674
        <212> DNA
        <213> Homo sapien

        <400> 155
tttcgtgtca gccccaggtt tgctccagct attcacaagc agaatataac acaagaaaaa     60
caattcatat cccttaggga aaaagagga  tcaattcatc actcaatatt taatacagcc    120
aaaatgagct gccaaaacaa gcacacacac aaatactgtg aacagaaaaa tacaagaaaa    180
tgactaagct gggagtcttg acggggtatg gacattgctt aaagcactta tcagtcccca    240
gaaaaaccaa accaaaaaca ttttttacga tggcatggcc tcatggcccc ctttaaaact    300
gttgatggta acaaagggca ggggggtgggg agagaaaaca caatcactgc tccctttttg    360
ctcgccagtg tgactgcacc cctcacggca ccggcatgta cacaactacc acacaaggag    420
gaccaagtcc ctctgctggt ggcctcctaa aaggcaaggc ttgagttttg gctgatgagc    480
aagttctctc cgttaccaat ccctgccaac cagcactacc atggctgaat tgatctaccg    540
ttttcctgag taaactgtaa ctggctacag tttcggtaac atggaaaaga actcagctac    600
tacagccaac tgcaatactt caggaacccc ctccatccct ggggctcctc actcctagtg    660
catcttgatt ggat                                                      674
```

```
        <210> 156
        <211> 671
        <212> DNA
        <213> Homo sapien

        <400> 156
cctttagtga acacctttat ctccatgtcc ctcttagagc ccagagagct gcccataggc     60
attttccaga attcctcatg tcacctagtt caatttccat taactcagat cagccattgt    120
gattcaccat ttgtcaggct ctcaggttta acaaaaccta ctatcaccat catccttcaa    180
cagccacagt ctgaattgag ccaacatttt tttttctttg agaaagaagt gggctggggc    240
acaacttttta gtctgagggg agctagtagt cggcttgaca attaaagcca tccataacaa    300
cttttcctca aatgtgttga ctcctcaggg gctaaactgc tcttagctta gaattatgct    360
ttactagaga tctaccatat aagtgggtta atcactacca tcctgtaact agttatatag    420
cttccagaca tgagggagac atcaaacagg gatggaagca accccaagga tatgcaagaa    480
gggcatgatg aaccccctttc cctctggcag gagaacaagg ccaaccaagg gacagactgg    540
aaagcactta gatgtttaag gaggagaaag gggaagcttt gaccagtcct tgccttttgc    600
caagttcagc cagttctccg ctgcttgcaa cctctagcgc agtaacattt tgcagaattg    660
cagattttcc c                                                         671
```

```
        <210> 157
```

```
<211> 474
<212> DNA
<213> Homo sapien

<400> 157
cgcgttcttt aattctttaa gcctagaaag tcctttacac tacttaccta aaggtcccaa      60
agtaaaacac acactagtag taaggctagt gcatttccct tctagcactc aaagaaagct     120
taacattttt gacagtttgc aaataccgcc ttgtatttct gattcagcct tattcaaagt     180
atcataataa aatatttatt aaatstatgt tgatctgcgt gcatttatga tctccagatt     240
aacgttaggc ttctctgttg ggccctaact tggaggtgct tttttggatc cctcctcccg     300
tgattcattg taatttcatt tcccttgtca tggctctgac cagagaagat tctaaatatc     360
tgcccccaaa gccaaaatta tatcttttga aaagtgaaat gaagagttga gtcastaatt     420
tattttagat attactgcct aaaacaattc cccaaaattt atggaagttg gagg          474


<210> 158
<211> 584
<212> DNA
<213> Homo sapien

<400> 158
ttggattctg cagttccaca tcattcactc cggcaaagga gagaacttgt aacaaagatg      60
agtgccaagt ttagtcaatt taccctacct ggaatactat atacaactct gggtctcatg     120
tgtgttaaaa tacatacagt gaagctgagg aagagccact gaagtaaaaa gtattgttta     180
caagttggaa aggatgtaaa aataatctaa agtatactaa gtcaggaata aaaggcagag     240
ttaataaaat tgtggctggt actgatagac gaaacagata tattttctaa atcctggaat     300
aattattaaa aaattttaca tgtatcaatg gattccagac tccatatttt aagtttcaca     360
actactgtca tttaaaacta taccttattg aacgtctccc actctcaata aattacccca     420
aatcactctt ctccaaaacg taaatttgga acacactgac ttacaaattt tgggcttaat     480
ttataggatg ttgtggccct caaaaatatc attgtgggct aaacaaaata aattcttgaa     540
acaattctaa aaatcaatca ttgtccaaaa tgaacttttt ctaa                     584


<210> 159
<211> 671
<212> DNA
<213> Homo sapien

<400> 159
cctaatttta ttacttttct tgccactgct attattgata gaaatacaat taaataatta      60
agatgaacca atccattgga agattactaa aattgtatct tcccaatgcc tcctacagta     120
agatttcttt ataattataa cccttggaga caatttgaac tttatttaaa tgttctgctc     180
aaatctaaat ttccttctcc taggctgaag cctgatctaa ataaggaagt agttgggata     240
tatccacagg ctgtcgaaca tggagctgca tctgagagac aggtggcagc aaccaaaagc     300
aaagcaggga ctgagaacag gcaggttcca agagcaaaat ggaacttgaa agccaagtat     360
ggttcactgt aaaggagaaa atatagaaat acggaactag aacacctggt ctgggatgtg     420
gtaagcaccc aaaatatagg aaaactgtat gaattcttgt gaagcagtaa actatgatag     480
taatcatgtg acacatatga taacaaactc aaaacaggga aaagaggggc tttattcaat     540
gctggagata agtgaaaaaa aaagtgaagt gtctcaagga cagaagttat catctcaaaa     600
aggcatatca gctagatctc gcggaaacca tatgattatc ataattctag actctgttcg     660
gtattacaaa g                                                          671


<210> 160
<211> 315
<212> DNA
<213> Homo sapien
```

<400> 160
```
ccagagaggg  agggctctgc  ttcaccacag  ggcaccagaa  gaggactggt  gcgcgggaag        60
accaggtaat  cataatgcta  ttaaaaatag  cagtaatcat  actgttttat  acattgtata       120
atgtcataag  gattttaact  ttcatgtaac  ataattgctg  taaaagtttc  cccagtttgt       180
tttgtgctat  ttaccctggt  gttaaaatgt  gtaagaattt  acattttagg  tatgttaggt       240
ttattccttt  ttatatggtt  tctgtttgaa  attttgattt  tagaagacat  tcattctcaa       300
ggtcataaaa  cacac                                                            315
```

<210> 161
<211> 607
<212> DNA
<213> Homo sapien

<400> 161
```
tttytgtgtc  accttggata  attgcttaac  ttttaaaatt  tacgttccct  catttccaaa        60
aagggattat  aactcactgt  tattttgata  attgagataa  atgtacgtac  aagtgctttg       120
aaactgtaaa  gtgcattata  aacagaggga  tttaccatag  aggttctacc  ttgatgtatc       180
aagagaagcc  ttttctggaa  tctggtgcag  ccttgtgaga  tgctgttagg  taaggggact       240
ccttggtaga  atttcttaca  tttgtgtaaa  aagttctggt  tcctgagtaa  ttccaaagaa       300
gatgctatga  ggagttcact  gtgcctttga  tttgatccca  atgggtcaga  atatgttttc       360
tcattcagta  ggctactaca  ggatttgaag  tagaaaaaac  agggtccagt  gaccttcacg       420
ggatcctaga  tgttcatgaa  tttcaatcat  ttgagattgt  ggggtgtggt  ccaatgctgc       480
tctcaaaaag  atgttgcctt  tcttcasaga  gcattaataa  ctaaaaaatc  ccctggtccc       540
aaatttattg  tgtgtmtctg  aaggctttaa  ctgaagaaat  gaaawgcaca  ctcatggaac       600
aaactaa                                                                      607
```

<210> 162
<211> 443
<212> DNA
<213> Homo sapien

<400> 162
```
tgagttttga  aaaagtgaat  aatcaaaagg  aaaataattc  cttgttgttc  ataaattaag        60
catcactaaa  gtctcttgaa  aggcatttct  gtattgggca  agatttaaaa  tactaaagcc       120
ttaggtccta  ttcatattta  aagtagcatg  tttgtaacct  gttactattt  ggagagagaa       180
gcagttgcct  gccacaattg  aagactacct  ttcaaatagc  aaaagagaga  gagaaggctg       240
atatttcggg  cttttaaata  aagatttgtg  tggttctgct  tttactgtaa  ctgtcacttt       300
cccagtgaaa  atgatttcat  atacatttga  gggtcttaca  sgtatgggta  aagttctata       360
aattgcaaca  aaatgatacc  caatttcatt  ttatcctttt  tgtattgtga  aactggaaac       420
tttatgacat  tgtaaattat  cag                                                  443
```

<210> 163
<211> 686
<212> DNA
<213> Homo sapien

<400> 163
```
caggcaaatt  atagtcaaat  acatcacccc  cctcaggcat  ctgtggcaag  gcatccctct        60
agagaacaac  taattgatta  cttgatgctg  aaagtggccc  accagcctcc  atatacacag       120
ccccattgtt  ctcctagaca  aggccatgaa  ctggcaaaac  aagagattcg  agtgagggtt       180
gaaaaggatc  ccagaacttg  gatttagcat  atcaggtggt  gtcgggggta  gaggaaaccc       240
attcagacct  gatgatgatg  taagttagct  ttgtatattc  ttgaaacacc  tataaagttt       300
tatttaccga  ttgaatactt  aaatgtaagt  gaaaatctaa  tagatgttta  tgtaaatcta       360
```

```
ggtagacatc acctggattc cccactctat tgcttacctt tttgttttgt aatttgatca      420
gttcaagtta aaacaattta accaaaaact atgaatgttt atgatataat gaaatgattg      480
ttaactttct tattgctttt tcacacacct ataaaagtaa ttttattact cccaagagaa      540
atcactaaag gcagaattac tagaggtaaa aataactagg gttggtacag tattactcag      600
gagaagtcaa ggggagaaaa cttgtcccaa tgattcaaaa taattttggc atggggggg      660
ggagggaaaa aaatttggct cctttt                                          686
```

```
        <210> 164
        <211> 706
        <212> DNA
        <213> Homo sapien

        <400> 164
tttttttgt ttcatttgct gcttaaaata aaaattataa attagattta aatggagcac        60
taattataaa acagattgca agtaccacca tttgaaaaaa aaaaaaaaa tcagtggatt       120
tccataacac agaaaatgca tggacatgca tctacagtag agttaaaaat ttcctgtgac      180
taaaaaatta aaaactggaa tcaccagtag caaatgtata gtcaatggct atgacaagaa      240
cagatcctgc cgagctcata aatgcaatta ttggcttttt tgctttataa aaaagacatt      300
acatatttta ttgcattatt ctcctaataa aaaacatact accacgtagc tctccccatc      360
cccattcttt gcttccagat ttttatagaa aataactgtt ttagtctggc cttggaaagt      420
gaacccacca gcaccacctt cacctactca ctcttcaatt caatatgcac atagcaaaag      480
ccaacacttc aaatctcttg cccacatcaa aaaaagtagt ttcaggagaa aaacattaat      540
accagttgaa taaaaataag ggcataaaag ctatgagaga gatagctctg ccatctgtct      600
ctgggctaaa aatcaaggct aactattgcc tttggcacca caaggttcaa ggtccatggt      660
tttattagaa aagtccccac aaaaaaatta aaccccctc acccca                      706
```

```
        <210> 165
        <211> 427
        <212> DNA
        <213> Homo sapien

        <400> 165
tyywgggcaa ttaggcagga gaaggaaata aagggtattc aattaggaaa agaggaagtc        60
aaattgtccc tgtttgcaga cgacatgatt gtatatctag aaaaccccat tgtctcagcc      120
caaaatctcc ttaagctgat aagcaacttc agcaamgtct caggatacaa aatcaatgta      180
caaaaatcac aagcattctt atacaccaat aacagacaaa cagagagcca aaatcatgag      240
tgaactccca ttcacaactg cttcaaagag aataaaatac ctaggaatcc aacttacaag      300
ggatgtgaag gacctcttca aggagaacta caaaccactg ctcaaggaaa taaaagagga      360
tacaaacaaa tggaagaaca ttccatgctc atgggtagga agaatcaata tggtgaaaat      420
ggaaaaa                                                               427
```

```
        <210> 166
        <211> 124
        <212> DNA
        <213> Homo sapien

        <400> 166
accatgtttt cgttgtgtgt gagcagggaa gggaactttc ctgccttatt taaacctggg        60
ccgaggattc gtggaatctg cttgatcaga gactctgagg ccaaaaacgc atcatacttc      120
ttgg                                                                  124
```

```
        <210> 167
        <211> 232
        <212> DNA
```

<213> Homo sapien

<400> 167

```
tctgcatagc aaatatgatt taagaattta acatcattat ttgatcacaa gcgtaaatat    60
gtcaccataa ataaatgtaa attcattgta caaaaattcc caacaactct taatacaaat   120
atggtacatt tgacagtttc tgaaacagat tattttttaaa acttttttaaa acctaagctt   180
tattttttttc ctggttatta gacacacaca aaaaaaataa aaagaggctg gg          232
```

<210> 168
<211> 677
<212> DNA
<213> Homo sapien

<400> 168

```
tttcacaatt aaccaacatg caaaaattct cagactaaac actgagaaat tcttcataca    60
atgcatttgc caccttattg cattttttaaa atctttattc tatagtgaat tggtattccc   120
aatctgccta agcaaaggca tgcccttcta acaagatttg cttagagcag aggtgataga   180
aggaagaatc cgaagaccct ctggcatggc aatctgggag cagcacattg ttgatggagt   240
ccaagtgagc acatttcaca caattcattt agtgacaagt gggcttgctc ccttttcatc   300
caggaaaaaa actactcaca gaccactgcc cagaatctgg aataagaacc ctcattttaa   360
ggtattcttc ccaacaaata aatatctaaa tattgaaagg gggcatatca gaaaacttaa   420
aagacacaat aaccaaaacc aaaaccctct tcaaaacaag taagcaatgt ctgtatttag   480
ttcactctaa aacattctta gcttttcttg cagtttgttc ctaaaagatt tgattgggca   540
caagaggaac gaaattatta ataaaataaa agcttatttt tgttttttgct gtggataatc   600
ggtacaaaac gtttccagat ctgagactta aatggatctt ttaaggtgaa aaggagaatg   660
ccaggttcta ctgaaat                                                   677
```

<210> 169
<211> 635
<212> DNA
<213> Homo sapien

<400> 169

```
ttaagaagac tgggcattta tactctctct tgctagtcag cctggagcaa gcttggagca    60
gacgcacatt tttgtactgg cacatattct tagacgacca attatagttt atggagtaaa   120
atattacaag agtttccggg gagaaacttt aggatatact cggtttcaag gtgtttatct   180
gcctttgttg tgggaacaga gttttttgttg gaaaagtccg attgctctgg gttatacgag   240
gggccacttc tctgctttgg ttgccatgga aaatgatggc tatggcaacc gaggtgctgg   300
tgctaatctc aataccgatg atgatgtcac catcacattt ttgcctctgg ttgacagtga   360
aaggaagcta ctccatgtgc acttcctttc tgctcaggag ctaggtaatg aggaacagca   420
agaaaaactg ctcaggagt ggctggactg ctgtgtgacg gagggggggag ttctggttgc   480
catgcagaaa gagttctcgg cgggcgaaat caccccctgg tcactcacat ggtacaaaaa   540
tggctttgac ccgctaccga cagatccggc cgggtacatc cctgtctgat ggagaggaag   600
atgaggatga tgaagatgaa tgaaaaaaaa aaaaa                               635
```

<210> 170
<211> 533
<212> DNA
<213> Homo sapien

<400> 170

```
ctgtgatctc acaagtgtga aaaatcttat gaatgtaaaa tgtgtggaga ttcttctttg    60
ttttttagctt ccactttggg aacatgtcaa agcacacatt gagaagtccc atgagtgaaa   120
gagatgttgg aaagcccttg aacttggtcg ttaggaaaca tccacactga agaggaacct   180
```

```
gactgtatgg aaggtcaaaa aggctgtatt aatttacatg caaaaagtca cactagagga     240
atgccatatc agaatgcttt tggtaaatat acatgtttta aagaggttat atatcattaa     300
taaaaatatc tagctggtct gaagaccctg agttatctca attgttcacg gttacagatg     360
gaactcttta ttattgagga gttccactct ttcccccatt tgtcactact acacttccct     420
agtctttaaa acaatttttag gctgggtgca gtggctcatt cctgtaatcc cagcactttg     480
aaaggccgaa gcgagtggat catttgaggt caggagttcg agaccagcct gga            533
```

```
        <210> 171
        <211> 568
        <212> DNA
        <213> Homo sapien


        <400> 171
cccttgscaa actttccctt aagtattgca ctacaagtct aagacacttt tcactcaaag      60
ttccttcctt ccttacctct cttttaactt ggagtcagac tttcatcagt ctgacaactt     120
ctccctgtct ccttcctttt ccccccttca caagcatttc acctaacaaa tttcttatgt     180
gcttaatccc ctcttagaag cagatgccaa gatgggatta agcacataag aggtcctgga     240
ctaatacaat gacaaaggct cccccttgaag catcacacta aaaggaaaaa aaaaaaaaaa     300
acctagccat tttacattaa ctatttctaa aatatagtat ttgcttccct atttgctaaa     360
acaaaatata ctaaacatga ctattccaaa aatctgtagg gtactaagaa tatgaagaga     420
ttcactctac ttcaggggat ggagttgtag tagaaaaggc tttgtggagg gagggtggtg     480
tttgaaatgt actttaaaag ccatcctcaa agcctcgagg gctataccctg cctggtgat     540
tatccaagga cagtccattc aaacaggg                                         568
```

```
        <210> 172
        <211> 167
        <212> DNA
        <213> Homo sapien


        <400> 172
ccatttacag gaatcagcca cttcagttca gacagcttta ttaaaccgcc tggagcgaat      60
tttcgaagca tgtttccctt ccatacttgt ccctgatgct gaagaggaag ttacttccct     120
gaggcacttg ctggaaacaa gcactttgcc aataaaaacg agagagg                    167
```

```
        <210> 173
        <211> 391
        <212> DNA
        <213> Homo sapien


        <400> 173
cctcccaaag tgctgggatt acaggcatga mccmccmcgc cctgatgata gacacgtttt      60
taacttctaa aaatatatga tcatgattgt gtctgtggag acttgcacat atactaaatt     120
ttaamcaatt agagatattt gttcattacc acattttggg agtcattatt tcctctatga     180
agagagaaag gaatttgata caagttcaca ggggcttcca gtagattgag acttttatttt    240
ctagctgagc tgctgatgta tgaattttttt ttgktattat gactttcata tgtattaaaa    300
ataaaatgaa aaaacaaggg attaggtgag gaacctatac gtctctaata tgcaaaatac     360
cacagaaata atgactgktg ggaaaattag g                                     391
```

```
        <210> 174
        <211> 474
        <212> DNA
        <213> Homo sapien


        <400> 174
```

```
gaactcagag agaggattgt caccccttggc atctgagctg acactataag gacaatgagg      60
agtctccttg gggatagatg gggagatgga aggacgatgc ctgtcctacg gggtcttgga     120
aggttaggga tacacactgt gagctgccac aggctcaaca gtacggatag ggggtgctgg     180
aaccagccag ggctctgatc accaagctat gtgccccatg cagaggaagg ggtagtggca     240
cactgaacca cccagccaca aggctatctc cccatacagg gcacctttaa aaaaattatc     300
cttacagggg aagacgggga ggaaggatga actgtgtgcg gtgatgttgc agtgagtgtg     360
agtttgtgtc cgtccgcttg tatgagggcc tacctttac taactagccc ccaactttca     420
ttatctcccc tttttctgtc tacccttctg ccttttaaa gtggcttgca atcc            474
```

```
        <210> 175
        <211> 655
        <212> DNA
        <213> Homo sapien

        <400> 175
ccttgcaggg gtggggatgt gtgggcttgt tcactgttac agcccatgta tacctgaagg      60
gcaacatgta cccacaaatg ttccaggagg taaataaaaa atacaattca gcctcttcta     120
aaccatcctt gttgatatct ctgctacttc cgaaagttaa ttcgttattt ggactccata     180
attttttccta ttaattcacc ctatgtccaa ctccaacagt gaaaaaaatt tatttaatct     240
ttgcaataag cctataggca ggcagcatta tcctcagtct gcagataagc taaggctcag     300
agaagcttgt atactgtcac ttaggtagta attgcaagag ctggcattca gacccagact     360
gtgggactcc tcactccatt ctctttcccc ccactaggct gctccttaaa atacaatgga     420
tgcttgatga acgcttgtgg gaatcctggg tggacacagt tccttttcgg ccaaaagcac     480
cttgacgact tgtgaagaat taatctggaa aacttaacct atttataaaa acgtgttatt     540
aagggcaggt tattcccacc cccttccca aagaaacccg ccctgacctt tttttactgg     600
gggttggtct tgggcatttt caacaagggg ggaacagttt aaaaattccc ccctt         655
```

```
        <210> 176
        <211> 660
        <212> DNA
        <213> Homo sapien

        <400> 176
cctggtcaaa gtgggcatta ccattcaagc attactagac atcaccgtaa cgaaggctct      60
gttcacatga aactacccct tctccattgg gggctcagac tctgctctca tccaggatcc     120
tgaactctgc tccaggcacc tgttcaaccc tctctcccac ccactgcctg tcacttcact     180
gactccagtt acattgaaac aattttcagt ctaagggagg attttctacc tttcagagct     240
gacctccgac tttaagactt gacaggtatt tatcttgaaa ccagagaggg agctggagga     300
aaaaaaaact gagcaagcac atcaatgcct tttccaccct tcttcatcct ttccacactc     360
accgactgcc attaccaaaa cgccaagcac aaccggtttg gaacaagacg cattccgttt     420
taattaaaac caactcatta tgtatttag tggggggaa ggggggcaca atcagggttt     480
tcaccaccaa attttccaca cggtttctga acaccattgc ctttaaaaaa actattttc     540
cacctccaaa atatttattt aaattttatt tattacggag gtggtattct tcctttggga     600
gccaaattgg gaaatttagg gaaccttttt tattacccgg ttttttgggc gggtaaaccc     660
```

```
        <210> 177
        <211> 459
        <212> DNA
        <213> Homo sapien

        <400> 177
cttttttctct tcctctgtgg aatggtgaaa gagagatgcc gtgktttgaa gagtaagatg      60
atgaaatgaw ttttaattc aagaamcatt cagaamcata ggaattaaaa cttagagaaa     120
tgatctaatt tccctgttca cacaaacttt actctttaat ctgatgattg gatattttat     180
```

```
tttagtgaaa catcatcttg ttagctaact ttaaaaaatg gatgtagaat gattaaaggt          240
tggtatgatt tttttttaat gtatcagytt gaacctagaa tattgaatta aaatgctgkc          300
tcagtatttt aaaagcaaaa aagggaatgg aggaaaattg catcttagac catttttata          360
tgcagtgtac aatttgctgg gctagaaatg agataaagat tatttatttt tgktcatgyc          420
ttgkactttt ctattaaaat cattttacga aaaaaaaaa                                 459
```

```
        <210> 178
        <211> 720
        <212> DNA
        <213> Homo sapien


        <400> 178
ctgcaagctc ccactccttc catttatctt aacgcccagg ctgacttcta agctgctttt           60
cactttccta cctccactgc attttcgccc ctgataattt ttgtaagctt acctaagcct          120
cccttctttt gagatcccct tcttaaaagg gtccattcta ttaaccctac cccatatcca          180
gttactttta ctacctgctg atctatcgct accttgtcca attcatggga attacagggt          240
gcactgggac aagagtaaaa tgatccaaca aacataatgt tgcatttaaa aaaataagct          300
aaaagatact gatgactttt tataactaca acatattcgt ttgtgaataa gaacatatat          360
agtaaaaaga tgaaaatgtg aacaggttga ctatttccta aatttatggc agaaggttgt          420
tctggagagg atgggaagaa aaaatgaagg ctggcagtga tgggtgggga aatgcaacct          480
ccaaaattat ctatctatat attttttatta aaaacacccca cagtaattat ggcaaatgtt         540
aatggtttgt ttgttctaag gttttggata catttaagat ctcttgcttt ctgggtacca          600
tttcttttct tttcttttct tttttttttca aattaattcc aaaagactta tatctgctac         660
atgaagaacg aagcaagttc agctctcttg gctgaaatgt tcaaatgctt gagggcaagg          720
```

```
        <210> 179
        <211> 427
        <212> DNA
        <213> Homo sapien


        <400> 179
ctgtgaatct gtctggttct gaacttattt tttagttatt ggcaatcttt gtattactat           60
ttcaatctct tcctggttta atctaggagg gttgtatatt tccaggaatt tatccatctc          120
ttgtaagttt tctagtttat gcacataaac gtgttcatag tagccttgaa taatcttttg          180
tatttctgtg atatcagttg taatatctcc catttcattt ctaattgagc ttatttgaaa          240
cttctctctt cttggttaat cttgctaatg gtctatcagt tttatttatc ttttcaaaga          300
accagctttt tgtttcattt atcttttgta ttgttttgt ttgtctcaat ttcatttagt           360
tctgctctga tcttcgttat ttcttttctt ctcctgggtt tgggtttaga ttgttcttgg          420
tttctct                                                                    427
```

```
        <210> 180
        <211> 728
        <212> DNA
        <213> Homo sapien


        <400> 180
caaacacaaa agtcactgtg tgtgtgatgc ttctccaatt ccactcatcc tggctgccat           60
tcatgcacta gtgcatgtat gcattttttac atttttttaaa ttacaaaaat caacctatta        120
taactgctta gatatatatg aagtaaaaat gaaagttctc cctttacatg acccatcccc          180
catcatttcc ctctttatct tatactgtca gcattcccag cttgtagcac agtgtctggc          240
aatagtaaat cctcaaaaaa tgatcaatga ataatttaat aatgattaat aaataaatta          300
atgatgatgg tgaagataaa ttttagcatt tattgaacgc taactacaaa ccagggagtg          360
tggtaaatat tttataaaaa tcaatgaatg agctaaaatg ccattctatt attttttggg          420
atacggttta atatttact cataaatatg cttaagaat attataatta tatgacttag           480
```

```
aatggtaaaa caatatgtac agcagtatcc tattttttag aataaaaata taaatatgtg      540
ctcacatatg tggttggggc atgcctagaa acccgattag aacgggattt tttcttacca      600
ccattttttt tacctgggaa aaatatggga aaattttatt tcccttcttt ttggttctaa      660
aatttatata caggagccta tttggctttg gataaatcat tttaaaaaag gtggtttaaa      720
aaaaaaaa                                                               728
```

```
        <210> 181
        <211> 546
        <212> DNA
        <213> Homo sapien

        <400> 181
acaatccttt ggaagacact actgggcttt gggtgctgct ttttaataat tgagttattt       60
tgagcttgcc aagtaggatc tattgcctgg actaaaattt atttcctaat cttctgatga      120
ccaagaaagg aaaaattaag tttgcagatg ggagatgaaa tatagccagc gaatatgcat      180
actggttctg aatgaaagga attaactttt cagtcaagaa acagtctgca tgccgtaaat      240
tgaatttttc ctgcaactgg aatgattggt taattctttt tgaacactgg cctttctccc      300
caagaacact aatgaattgc taatattttt taaagaaaac tggttttta attaggtaag       360
ctccacttcc tcttattttt taatccctaa agaaaactgt taaaagggaa tggatctatc      420
acgccttttc ttttaaaacc accttttttaa aaaaggattt ttccaacccc caatttgctc     480
ttattttaaa attttgaacg ccaaaagaag ggaaataaaa atttttccct taattttacc      540
ccctta                                                                 546
```

```
        <210> 182
        <211> 333
        <212> DNA
        <213> Homo sapien

        <400> 182
ggccactctg actgggtctg ctaattcaca tgctctttgt gacatacggc tctaagaggc       60
agaggctgga agagaagtat gtgggttgtg ggatcaagat acccaagttt cagtcttgac      120
actgctatta cttagtcagg tgaccactgt aacttcatct tgattgagcc tcagatgtct      180
cacctgcaaa atggagtttg aaatttgcta tggttgggtg tcacacggat taaatgaaat      240
aatgcctgtt aagcgcctat ccagcactta ataagatggc cactgcatca taatgctttg      300
ggcacaagta acacaacatc caacccaaag ggg                                   333
```

```
        <210> 183
        <211> 393
        <212> DNA
        <213> Homo sapien

        <400> 183
ctgaatttct tgggctttat gtggcagtgt ggtaaaaata tatgatcaga tttcactgtt       60
aagaaaattc tttcagcaat acatgtagag tcaagtttct tgcatggata actgaacatg      120
tgggttatga gattttaaaa aatgtctcgt gacaaacttt acgaaatgc aacaatctgg       180
acatctagtt ttgtctgaga gtggcgtgga tatgaagaac tgtgctgttg gtgctgatgc      240
cacactaagt tttggcagtc acactcttgg ttcttcatat ttgaggagat gggatggtga      300
ggaggcctgt tggctttatt ttattacgtg ccaccatcta gaatacagat tcttggatat      360
ttcatcttca caaaggtgaa gctgcaaact cag                                   393
```

```
        <210> 184
        <211> 700
        <212> DNA
        <213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(700)
<223> n = A,T,C or G

<400> 184
ccaggscawt gaggaaaagr gaaagaatwt arrggstwtt caaataggaa aaraggaagt      60
ccaaattggt cccntgttkg ccagataacc atgattgkgk atttagaaam ccccatgwty     120
tcagcccaaa atctccttaa gctgattaag camcttcagt aaaktctcag gataaaaaat     180
caatgtgcaa aawtcacaag crttcctatm cgamcaatam cagmcaaaca gagccaawtc     240
atgagtgrac tcttattcac aattgctagt aagagaagaa aatmcctagg aatacaactt     300
mcaagggatg tgaaggwtct cttcaaagaa gaactacaar ccrctgctca aggaaataag     360
agaggmcmca agtaaatggg aaaagcattc tatgctcatg gataggaaga atcaatcccg     420
tgaaaatggk gatactgccc aaaataattt atagattcaa tgctatcccc atcaagctac     480
cattgacttt cttcmcggaa ttnggaaaaa tctactttac acttyatagg graccaaaaa     540
agaagcccwt gtagccaaga caatcctagg caaaaaagac caamcctgga ggcatcacag     600
tmcytgactt cmaactatwc taccaaggny tmcrgkgmcc aaaacagcac ggkacntggt     660
mccaaaccrg acwtwtwgac cmmcagacac agaacmgagg                           700

                <210> 185
                <211> 192
                <212> DNA
                <213> Homo sapien

<400> 185
ccagyctttc ttttaagtaa gcgctttttc aagctcattg tagctacaaa gtcaataaat      60
tggtctttgt tattttacc tgaaaaggct gttaaaggtt aaaatgacaa actcaaattc      120
aaagggattg gaggatttgg tgtttatgat ttctcagaac aacaatctag agaccaccag     180
ggtgggtttc ag                                                         192

                <210> 186
                <211> 688
                <212> DNA
                <213> Homo sapien

<400> 186
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtgg gatatttctt ctggatagat      60
ttcagatagg tagttccctc aaataagatt atatgggttt gcattttcaa ggcagagttg     120
tatacttcct gctctttatt taaataaaaa aacttgaaaa tctgttctgc ccagtattgt     180
aagcgctcag gtacaaatat gaatgaaaca atctctgcct aagtaacaca agtataggga     240
caagattctc agtaaaattc tcacgtgaaa tttgtaactc actagacact atcaggagat     300
caataattat gtaattaaaa aaaataatta cctgccaaac tgggttcttc tttggcactt     360
ctgcttggtt ttaagacaat tctcacatag aagcttatta ttccccatta gtcattccat     420
agatgtaaaa ctggtagaaa caggacttga attgaacatt ctttacaagt aagttatata     480
gcttctgaaa aaagggcttg aaaaagcatt tttggggact ataagaacct tcaaatgctt     540
tcccctctta acaaacctta aaattatttt gaaataaatt taagggggct gattttctct     600
tgtcaaaatc ttgaacccca cttaccaggt ggttggtcaa accaaagttc aaaaaaaagc     660
ttctggcctt tcctttatcc cacttgca                                       688

                <210> 187
                <211> 779
                <212> DNA
                <213> Homo sapien
```

<400> 187

```
gcaaaaaaca gatacatttt cagtgtttaa aaatgaacaa gtatggaaag gcttatacag        60
taactgaaaa gtctcctttg ggaagccaag gtgggaggat tgcttgaggt caggagttca       120
agaccagccc aagcaacatg gcgagacccc atctctacaa aaaattaaaa aatcagccag       180
gcatggcgga catacttgta gtagtaacta catgggaggc tgaggcggga ggatcacttg       240
agtccgagag tttgaggctg cagtgagccg caacgcgccc tgtactccag cctgggcaac       300
agagcaagat gctgctctaa aagaaatttt cttttaaaga aaaaagtctc cctcatagcc       360
tgttctacaa aagtcctatt tcttcccaca aaaagcctct ggtacctggt gttagttctt       420
ggggtggaag attactttta aaaatagaac tattttttaa gtatatcttt tagggaactt       480
tagttcccga agctttagga aatgggatct tgaaaacaaa agggatttca atacctatga       540
caatgcttaa agaattattg gggcatttat ttttcaatgg agggtccaca aatctttgga       600
aacccttggc caattaccag aagccacttt aattttttgac cgaaaatgtt tttaaaaatt       660
ggctttggga aaaactgtct ctttccccaa aaatgaaaac cttgaaaaaa agggggaattt       720
ttaaggttgc cccctcatta aattttaacc cctctgaaag aaaaccctct tgtgacagg        779
```

<210> 188
<211> 394
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(394)
<223> n = A,T,C or G

<400> 188

```
ggcgamgtct ggycaccatc atgccctta atcaactcac acctgtttaa agagtgtttc        60
tgatttgacc ttcatccctt agtttactgg cgttaaaaaa agtctcagca attttcatta       120
tttctcgtgg gtctcattat caaacctta cttatttcgg catatttcct ctgggcttct       180
tctagtttct gccttacaag caatgctgtt ctgtaaattt attgaaacct ctggaacatt       240
tcacctttag agatggagga tggaaggatt ggyaccagaa gagggctaag atacgttytc       300
tgtcttngag ctgaaagcac agyctactct ccttcgtttt gycgatgaga aaagttgagg       360
ccagaaggga ggtgacatgt ttagagtcac ccag                                   394
```

<210> 189
<211> 681
<212> DNA
<213> Homo sapien

<400> 189

```
aagttctgac tttggtctat aaaacagggt tattggctgt ggctgcactc aatatctaaa        60
aagttattag gaagtgcctc gttattgtca ttaaagatat ctaaatatgg tagaccaaag       120
gttgttgaga aacacatatt atggactgag ttctgtttct tctgctgtgg cgcacctaag       180
ctcaagcctt ccttctctcc ctccccttct ggccggcatg gtatctgagc tcacagacag       240
acaaggcatg ttagaatcat cagatcatga gcaccgtgct gggatttagc cctctccaaa       300
gtcaattctt acagtccata ctttgcttaa atcctcagtt gttgaggtct gctctgctgt       360
cagtaatccc agctataaat ttcccccaaa tgtggggcct agataaagta gaaggtggat       420
ggactcagct tattttcatg ggatgacagg aactggaaag agaaagggca ttgaaaataa       480
aaagttattc cagaatagca ttaaccctct tactgttcaa gaattaagaa agcctactta       540
gaaatgaggg ccttgagaat gatacccaaa tattggtctt ctaccaaaa aatggccttt       600
ccaaatatct gctttcctgt tccccaattg gctttttaag tagaattaag ttacctaaaa       660
ctttacctga agggtggttt t                                                 681
```

```
        <210> 190
        <211> 839
        <212> DNA
        <213> Homo sapien

        <400> 190
caaatacatg atttccattg gcatagactc ttctatagtc tctcaggcac accttatgac          60
taataagaac actgtcttct agatataagc caagttttag gagttatctt tgtagtttct         120
gtgttgagac tatgggtctt ccctgtgcaa agacttgatt agcaaatact atttgaaacg         180
atcccaaatt catagtgcag ttgaccaccc ttctgatcaa ggggatctct gtatatccca         240
tgaaagcttc ataggtctca ccctagatta agtgcttcac ttctcaagac agtgaacaga         300
tggaagactt ttgtagttat cattatacaa ctgtgccctg tgtgttttat tatacaacca         360
gagaactgag gcactggctt tacctgtcag ctacgccagg ggtgtgacgt catctttctg         420
acttgatcac acatgccaca ttgcttaata tttcaagctt agactgaaat aatcctgtgg         480
taaaaaattt ttggggggct ggggaggtaa agaacaaggg ggggaacttt ggaatatttt         540
tattcattaa tcatatttcc cgaattgtat tttattttga aatgaccata agggacttaa         600
atacgtattg tggttaaatt aaatggaccc aaatggaggt aagtaaacct aatgggacaa         660
atgaataaaa ggtttatgac tgggagcatt tacccatgaa cctccttaga agctatttaa         720
cctttctttt ggaaagccct gaaggctggg aacttaaatt ttaaagacag tacctatttc         780
cagaatcgct tccaaatggc catgttttaa agggccaaca ttttgggatg gccctgccc          839


        <210> 191
        <211> 697
        <212> DNA
        <213> Homo sapien

        <400> 191
ccatcctgaa tactgatttt ctaatggaac tctattcaat ggcgattgta aaaccctgag          60
gctccgttac tattatggag catactttca tctcattctc ggctattggg caatatgtat         120
ctcataagat tttatcacat ttcacagatg aactgttaat tgattccatg ggtacgatta         180
ggcgagatcc aagctggagc tgcagctctg agtcccataa attctttgtg cttctgtaaa         240
gaataaatct gttttttaatg caaattaaaa ctactggcag ggaattttgg ctcccagtta         300
ttaaaagact ggaaatgtgt aagtggagaa aggcaataac tgcagtaatc tcttaccgga         360
ctctattata attccaaaca tacataatgg tgagaaaaac cgggaaggga agaatgtggc         420
aatgtccact ctttgcccca aacataaccc ttaatttcca tggcgggccc aaacactggt         480
aaaaaccaaa atggtaccct ctatagcatg caacttttat ttcactccaa acgaaaaatt         540
attttgacta tggcttggga aatccattag tagaagaagt tttataacct ataggaaccc         600
ggccatttca tttctaccaa atcacaggaa ttttagaatg ggcaaggaat ttacaggaag         660
acttgcccaa ttatctttttt ttggggggact aaaccaa                                 697


        <210> 192
        <211> 687
        <212> DNA
        <213> Homo sapien

        <400> 192
ctggttacta tagctttgta gtataatttta aagtcaggta atgtgattct tccagttttg          60
ttatttctgc ttaggatagc tttggctatt ctggatcgtt tgtggttcca tataaatttt         120
aggatagttt tttgctattt ctgtgaagag tgtcattggt actttgatag ggattgcatt         180
gaatctgaag attgctttgg gtagtatgaa cattttaaca atattgattc ttccgattaa         240
tgaacatgga atgtttttcc tttatttggc gctctcttta atttccttca tcagtggttt         300
ataggtttca ttatagagat ctttccttct tttgggtaat tcctacgtat ttaatttatg         360
tatcgctatt gctaaatgga atgacttttt aaatttcttt ttcacattgc tcctggtggc         420
atattaaaag ctactgatgg atggtgattt tggattctgc cactttactg gaattggtgg         480
```

```
atcagttcta atcgttttct tatgcacccc tttacggttt ctacatgtaa gaatatatca      540
ccttcaaaca cggataattt gacttcttcc ccatccaatt gggaggccct ttatatcttc      600
tcttggcctg aaggctctac ttaaaacttc ttatcccttt gttggaataa cagtggggac      660
aaatggacat cccttgtcat ggtccca                                          687


        <210> 193
        <211> 493
        <212> DNA
        <213> Homo sapien


        <400> 193
ctgctaaaat gatgttgcta aagcattcct ttttcttttg attaaacttc atgtttacaa       60
aaaaattaat tctagcagaa taacgaatgg ttttgttttc tagttctctg ctgaatgaac      120
agttttgcca attatcttca tagagtagtg atataatgaa tgcaacctca aatgcaaacc      180
aaccaattca cagtccatac cccaatcact tccttcatca gcctcaaaaa tcgctaagtg      240
aaccagtaga atggttttgg agcagtaata ggaaagcaaa tagaaagtca agggggactt      300
tcaacgccaa caagaccaat tcagatcctg atctgactgg tttctaatac aatctctttc      360
cagagtaatg gagcatgagt ctgccacaca gaactttaga gagagtcctt tatttcaaag      420
actgtaaagt tggaagaatt cattcatctg caaagtcaaa tgtcaaaagt tgtgcttccc      480
actcctcatc agg                                                        493


        <210> 194
        <211> 424
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(424)
        <223> n = A,T,C or G


        <400> 194
cyagggcant tnagcangas aaggaaatan mggggattca attagggaac wraggakarw       60
caagttgtcc stgtmtgcag atgmsgtgat tgtatatcta gamcacccca ttgtctcagc      120
ccaaaatctc cytaagttga taagcawctt cagcarmgtc tcasgatscr acmtcwatns      180
gcraaantca cmwgcattct tatacaccaa tawcagacaa acagagagcc aaatcatgag      240
tgaactccca ttcacaattg ctacnmaaga gaataaaata cctaggaatc caacatacaa      300
gggatgtgaa ggacctcttc aaggagaact acmaaccact gctcaaggaa ataaaagagg      360
atmcaamcaa atggaagaac attccatgct catgggtagg aagaatcaat atccgkgaaa      420
atgg                                                                  424


        <210> 195
        <211> 229
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(229)
        <223> n = A,T,C or G


        <400> 195
tgaacaccct tnggaaggaa cctgctcgna tgtannanaa anggaccgga cagtctgcta       60
aaatcgccct ctttagacgc ggcgcgccgg ggcagagttt ttctctggtg ctttgacctg      120
```

```
tatttggttt aatggttttg tcctaatctc ttcaatcaat aaaattgtgc gtatttaact      180
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaa                   229
```

```
        <210> 196
        <211> 557
        <212> DNA
        <213> Homo sapien


        <400> 196
gcggtggctc atgcctgtaa tcccaccact ttgggaggct gaggtgggca gatcacttca       60
agttgagagt ttgagaccag cctgggcaac ataacaaagt gagatcttat ctctacaaaa      120
aaattaaaca aacaaaaaaa caaatcaaca ttcatttgca gggctctttg gtcttcttaa      180
agaacaaaca tatgaaataa ataagctgat tcttaaagat aacaaatata atgagctttc      240
tcaactgtaa aagcatctct aagttgttct atcaatgcat atccactcca tgaactaacc      300
tgaagaaagt gttgaccatt ctacccaatt aactgtaaac taagattgct ttaatggttt      360
gcctaaattt gagtaccttt aaatttttgc tttttatcca aattcattct cccttcttca      420
aattaaatag ttttgttaga aatcggataa gcaagatgta ctttttagaa agggcaatag      480
aatcctacaa catgctagaa tttgaaatgt tttttaaat cagtmmtttc tctatgctag       540
taactaagaa aattata                                                    557
```

```
        <210> 197
        <211> 624
        <212> DNA
        <213> Homo sapien


        <400> 197
ttttactacc tatatttaaa atgatccctg acgcccctca agacaaatat attaattttt       60
ttactttgtg ggatagagat cagaaaaaga gtagagatga aaatactgga gaaacaatgc      120
aggagatatt tatgaggtga gaatgtcaag aaacttgtaa agggagaata ctataatgac      180
ccctgaagag agagctttag accagttgag tattagaggt tgccacgtgg ctattcatcc      240
actaataaat acaagaaatt actaaaatgg aagccactgg aaatatgttt tgaggaaggt      300
gagaatgtgg acctattata aatgggtgaa tatgatttct ttctcattaa gttcataaat      360
aactttcaga catgtaacag tttatgaagt gtgccgtagt catttagtat aagttttata      420
cacaaaagtg tttttactaa gactgtcaca ggttcttttg tgaatcttgt ttgttttttcc     480
tcattgtaaa tactgcaata gaacatttgt gtcttaacat aaggcaataa atgaccttaa      540
gaaccttcac ttttatatag aaagtggagg aaaagttggc agagtaattt gttgattata      600
gataaaagct cttgtagaaa ttgg                                            624
```

```
        <210> 198
        <211> 175
        <212> DNA
        <213> Homo sapien


        <400> 198
tttttttttt tttttttttt ctaacactta tgcatttatt ttcatgtgta agaagaaaaa       60
cgtaactagc acgtgaacat gactgcatgg atacacggct cagcacgagg ctaaagtcag      120
aagtgagtga aagcaaaacc gcatgttgat ttaagtgaaa taacagaaca gaaaa          175
```

```
        <210> 199
        <211> 871
        <212> DNA
        <213> Homo sapien


        <400> 199
```

```
ctgttgatca atgatgagct cccaagagta accagcctct atatagtcag catcactggt    60
ttctcaggaa aagcatcacc attgttcatc ttgctgcaaa atgtatgcac aagtatcttt   120
ttatttttaa aaaagccctg acattttatg actgctgctt ttctaagata ttttcaaata   180
tacagtccat acggttcaga cacaatggac tggggataga gacggctata gtgccgataa   240
tggagaaact agccagagct tcagatattt gttttccagg acatctcaat aattgggtac   300
acctcacaat atgtgagact tgacgtcgag tggcacggca tactctggcg caggcacttg   360
ataaagactg tgtttgcaaa tacttagcct gcacttcaag ataccaggca tctaagcacg   420
tcccagatgg tgacagttaa tcttcaaaaa accctatgtg gaagtattat cattgtcctc   480
attttacaga tgaggaaaaa gagacacagg gatgtcaata tcttcctcaa ggtcacacag   540
caagtaagtg atggaacagt ggctcagcca tgaagctatt gctgttaacc actaggttga   600
tttgccttca ttaatttctt cctaaaactg cacatttccc gttagtccct ctttttggtc   660
tgtcgtttga ctcttggcta ctgcttagag gaagattcat tctattattt tctaacttag   720
taaatatgtg caactccttg gggacatgac caggcaaaag ctggatacag aaatgtatgc   780
ccaaacacca tcccaagtta cccctaacag gtcttttctg gaccctgttt gtaaggggggg   840
tatatttgga aaaattttta aaattttctg g                                  871
```

```
        <210> 200
        <211> 737
        <212> DNA
        <213> Homo sapien

        <400> 200
gacattttga aggtaacagc aatatctgtg tatagatggg gttgtggttt tgttatttat    60
ctgctattgc tgaactatcc tttgtcttga gcgataaaag agaagtaaaa tactaaagaa   120
ctgaactgtc catttctgga ccatgagtaa agatgctggc tgtcaaactt cctgttcata   180
cattagttta tttatagagt gtactctcta tgtaaggtat tgactgataa tgttactttg   240
acttcagata gcttgcagtt taatggagga agaagacaaa catgcaaata actaggtcaa   300
tgaggcatcc tttgtgttcc attggaagct aggctgcttt gtaaccttgt taatttctgt   360
ggttttggag tgcattcatt agcaaataca ccccttgttc ttatccattc tctgcttttt   420
tctttatttg gcatttgatg acattttttc atgtggggaa attgagtcag gtgaggtgga   480
aagaaaataa ggacacgaca ctaaattctt tgatgttttt ccttaaaaaa ttgttttttca   540
agtgctccat aaagggttgt gaagttttaa gagccatagg acttggatta ttgtgaaaga   600
gtgtctctag ggggccaggt taaaccattt caaggactct ccttctctca tctcccttgt   660
tccacccagg gtggcgaccc ccaaaaagca caaagcctcc ctttcttcat gggaagggta   720
aggaacggaa gggaacc                                                  737
```

```
        <210> 201
        <211> 493
        <212> DNA
        <213> Homo sapien

        <400> 201
tctagaaatg cagcttttat ttattacccc atttctttca agtccttgga aaataacata    60
ttaagggtac aagaaattaa cacatgatgg aaaagtcatt gtgacgccaa tgaatttcat   120
tgagtataaa ctcatctact tcaaatttat tttataacac aacctaagat actcaagata   180
attatttaat ggttagctct taagttgaat tggtctacat aatgcgtggg aagaaaacca   240
gattttagc cttcttgcca aatccagacc tctggttgat ttttctttga cagaagatgc   300
aagttatttt ccaatttcac aattaaatgt atttaacatg aacattattt tgctttaaaa   360
actataaaca ttgtaggaga attatagcca gtcttcagtt ataaccactc caccctcctc   420
actttctctc tctctctctc tttttttttt gctatgggat ttaatgggaa aaatatgtaa   480
aaactgtcac taa                                                      493
```

```
        <210> 202
        <211> 283
```

```
<212> DNA
<213> Homo sapien

<400> 202
ccttttttatc tcagtgacac cgtccggggga cgcaggtggt ggtgactcaa ggctagcctc        60
aaagggcagc cccacctcct catcctggac cacagagacc acctgcttgg cgcgccgtcg         120
cttttccgag agggtggctg actccggggt gctggggctg gggctgccgc ccccgccgct         180
gttgctgtac tcctcgcccc agtcgatggg ggctgccctc ggacagcagg tgcaggttgg         240
gggcactgtt acgcaagacc atgctgcccg gagaggtaga tct                          283


<210> 203
<211> 713
<212> DNA
<213> Homo sapien

<400> 203
ctgctttgc gcaaggtgcc actggacgag cgcatcgtct tctcggggaa cctcttccag          60
caccaggagg acagcaagaa gtggagaaac cgcttcagcc tcgtgcccca caactacggg         120
ctggtgctct acgaaaacaa agcggcctat gagcggcagg tcccaccacg agccgtcatc        180
aacagtgcag gctacaaaat cctcacgtcc gtggaccaat acctggagct cattggcaac        240
tccttaccag ggaccacggc aaagtcgggc agtgcccca tcctcaagtg ccccacacag         300
ttcccgctca tcctctggca tccttatgcg cgtcactact acttctgcat gatgacagaa        360
gccgagcagg acaagtggca ggctgtgctg caggactgca tccggcactg caacaatgga        420
atccctgagg actccaaggt agagggccct gcgttcacag atgccatccg catgtaccga        480
cagtccaagg agctgtacgg cacctgggag atgctgtgtg ggaacgaggt gcagatcctg        540
agcaacctgg tgatggagga gctgggccct gagctgaagg cagagctcgg cccgcggctg        600
aagggggaaac ccgcaggagc ggcaccgcag gtggatccag atcttcggac gccgtgtacc       660
acatggtgta cgagcaggcc aaaggcgcgc cttcgaagga gggggctgtc caa              713


<210> 204
<211> 275
<212> DNA
<213> Homo sapien

<400> 204
gtagacaagt acagcagatc cagacaccag atctagctag gctaaatgta cagtatctaa          60
cttgatctga actgaacctg tattccttga tgatgcctaa aactacatcc atagaattct         120
ggtgaacctg taatacagtt ctgaaagtac agttttatat aataagatgc tgatctcttt         180
attctttcaa gtaagagtgc tagagaacaa attgtgttac ttgccttggg atttattgaa         240
cgtctggaaa atgctgtctt cctagatcca aacag                                    275


<210> 205
<211> 694
<212> DNA
<213> Homo sapien

<400> 205
ctgttcctgt acatttaact gaaaaaaaag taacttaaaa taatataaaa atagcactca          60
tgtatgtcct acagttatag gtgaaatttg atattgtttg tcttacatag catacctata        120
gacagcttaa gtaaagtgac tgttaagagg gttatgctta ttgatgaact cttgtagttg        180
cttaccagct ctgttagtat agttaaattg atctcagtag cttcaagtat ttataaaatg        240
gttgaagtcc aaatacatgt gataattaca atacactttg aattaatgga gggtgggagg        300
ctagttgaaa tgcatttat ttacccaagg agtatgttaa aatgatagtt ataaatgttg        360
gaagtttaaa gcaagatact cagtttagtt ctttacaaat cataagaaga acaaaattag        420
```

```
atgttgacat tgctatttta ggctgtgtgt tttccatatg cttcttgctt tccctgtcac      480
aggtggtggc agcaatattg gtgtgattga ggttatgctg gcaccactcg cacacaggcg      540
cacaatggtg ttagctgggc agaaagagtg gcatctctgg ctaccgggct gggggcgacc      600
tttaccatag gatgaagtaa ccttgcattc ggctgcaagg tgtactgtac cgtacacagg      660
tgctgggtcg atggccactt tctgcttttc tttc                                  694
```

```
        <210> 206
        <211> 704
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(704)
        <223> n = A,T,C or G

        <400> 206
tttttttttg gnaaaaacag ggtttcatca tgtttgccag gctagtctca aactgctgac       60
ctcaggggat ttgcccgcct cacccaattc aactttcgta agtcagtatt taccatctaa      120
ctcagtgtcc caaaatttaa aatttccttg cactttacag caaaaataca tattggggct      180
ctactgaagc aatatataca tgtcaaaact aaaaatcaga aaagcaaaag ggtccattca      240
acatatagca gcttatattt aaatatgtac aggtatgtat gttttcacag ttagatcttt      300
aaaaaaattt atatttgata tgttcaaaaa tacttctatt ggctataaat aatattttaa      360
aagctcaact gatcaaaatg cattccaaga acatatcaaa ttaaataaat cttctacgtc      420
tttaaaaaca gataattgaa gtcagtaaag cttgaggttt gtgttaagtg tattctgtca      480
gtccctacta ctagggaagg cagaatcttc taaatacgat acgaaagaaa ctcccaaagc      540
ttggaaggaa tcggcagctc ctgaactttt ggggggggc atccctcttc gggattgaca      600
tgcgacataa atgttgcaag ctaagggacc cccccgggg gagtgggccc caaaaaaaac      660
cacaccttcc ccgtcaatgg tggtccccc accaacctta aaaa                       704
```

```
        <210> 207
        <211> 225
        <212> DNA
        <213> Homo sapien

        <400> 207
ccattttaac tgtactgcca atagaattct ggaattgtgg aaaattgtat cattgaagtt       60
cagtaggatg tgtggcttaa aaatttatca ggaccacaaa aaagaaaaca aaaatatttg      120
gtactgaggt tcattgccag ggcaggaggt atttccagaa aatactcatg cctgtgttct      180
gttccttgct ttcccaaata ctgcatgtga ctttcctaag cggca                     225
```

```
        <210> 208
        <211> 678
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(678)
        <223> n = A,T,C or G

        <400> 208
cctatatcta tcaaaaaaaa tccagttcct aactaataat ctcccaaaaa gaaagcacca       60
ggaccagatg atataaatgg caaatttttt caatcattta aggacaaaat aataccaatt      120
```

```
ctgtatcatt tcttccagaa cacttcctaa ctcatcgtat gaggccagca tcactctaat       180
agcaaaacca gataaagcca ttacaagaga gagtgacaga ccaatgtggt tttattgagg       240
atgcaaacaa aatttaacat aatatttaat agtgaaaaac tggatgctct ttccctaagt       300
tagagattaa ggaaagaatg tccccttcac tactcccata caacacctta ctgaaaattc       360
tagctagctt tataaaataa anaaaaacca naaaataaaa taaaaggtgt acagactgga       420
agatacagtg aaggaggaag aaataaaatt ttctttgcgc ataacatgat tcttctatgt       480
ggaaatcaca gagatttgaa catttttttt ttttgagaca gttttttgctc ttgttgccca       540
ggttggagtg taatggcgcg atctcggctc actgcaacct tcacctcccg aattcaaggt       600
gattctcctg ccctcagcct tcccggagta agcttgggga ttaacagggc atggcacccc       660
ccatgccccc agctaaat                                                     678
```

```
        <210> 209
        <211> 720
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(720)
        <223> n = A,T,C or G

        <400> 209
attattttga accctagcat ttagaaatga aaaacttttt ataacaatca aatacatgat        60
aaagtatgca aagagtagga aattattctg atgacatatg gagggttaca aaggagaaaa       120
cttttttgcta cctctgataa agaatagact aaattctcca agaccaatct gactggtgtc       180
ataataaaag gaggtacaca cggaagcaca agggatgtgt gcctctggag gaaaggtcag       240
gtgaggactc agtgagaaga caagccaagg agccaggtct tggaagaagt caaccctgtt       300
gacaccttga tcttggacta accctgtgga caccttgatc ttggactttt agcttccaga       360
actgcnagaa aataaatttt tcttgtttaa gccacccana gtgtantgtt ttgttatggc       420
agccctaaca aattaaaatt atattttaac agagaatata aaattctaat ataacatttt       480
acagtaaagc attcatggtc ttttttttct tattaataaa tccatcaaaa cagaaagttt       540
tgcaaaattt taacacattt ctctaccact actgtttcta ctctcttaaa actactccgc       600
aaatataaaa atagaaggcc aaaatgcatc attaaaacga tgtttgggga ctaatggcct       660
taaaattcta ttacacttgg aaatatacaa atattcaaag attatctatt gatcacctca       720
```

```
        <210> 210
        <211> 277
        <212> DNA
        <213> Homo sapien

        <400> 210
tccatgtatt tttatacaga atggaacaat atgtatgtat gcaatyktta cattccacca        60
tgaaataaaa cagtataatg aaaataacaa tagattcaaa caatgatatg ctattttttt       120
ttacctatga cattggcaag gtcttcttaa aaaatctgcg aataaccgat gttggagaga       180
tcatggggaa atagccactc aaatgttact catgagagtg tacatatgtg taacttcact       240
tggagggcaa tttggtgata catttaaaaa gttttgg                               277
```

```
        <210> 211
        <211> 715
        <212> DNA
        <213> Homo sapien

        <400> 211
gtggtagaaa tactaatttt gcaattacag aaaaaaacaa atgccattca catggttyct        60
```

```
aacaaaaagt gtctgaccac ccccacccc cacccctcaa aaagccctta aataaagagg      120
aagatcaaaa gaaaacaaaa taattcccga gtttcacctc atacatacaa tatagcacag      180
gaagtggcaa agtttaaaat aatgccttta ctgttaggac tagtatgctg tcaaaagcca      240
caatcctttt gttttagtga gttgatttc aatagaaaaa tacaaatgaa catgtgttta      300
agttccaaca tggattgagc acctctgaat ttagtatcaa atgattaatt ttatttttca      360
gatgtcaaat cttagtataa aattttccat tattttaaac ttcacttgaa tctttaaaaa      420
agctgtctaa attgtactat atgagttcag tttaatcttc tgtaaaatgc taacaaattg      480
aactgtcagc agtcttttaa aaaaaaatgg gggctgggtt atttctagaa gaactctcat      540
taagctttga aaatcagaaa tcagagacaa ataacttcag atatagacta gctccacaag      600
caaatttata caattatctg taacagtcta tacatatatg tgtatatata tataccgtaa      660
ccactttcat aggtaaaaaa tattaacttc atgtcacact atgatcagaa gtata          715
```

        <210> 212
        <211> 717
        <212> DNA
        <213> Homo sapien

        <400> 212
```
agcctccccc aatgccttaa aaggtcacag tagatctcag ctctgaacag aaactcaact       60
gaaactcttc ccacaaccca gcagtagata tattaaaacc tacaattttc agggatacaa      120
ccaatattta attcttttga gggttttgtg tttaatacaa ggacacaaac acacgtataa      180
aatgacgatg tcaatactga ttaaacagaa caacaaaata agaagctcaa attatcatca      240
gctattgtgt atatctgaaa taacaataat gcacttgatt ctgaaagaat gattagagtt      300
cctactctga aaatctaatt gtcttgatgt ggcgaagtga gaagaaagga tgattttct       360
aatgaaaagc atgtatacgg gtagcccttt gcgagattct gtcaaaaccc tgaattttgc      420
attagctgtt ttaccaccca aacgttttta cccgaggatg tgcagcaatg ggaactctca      480
tacactgctt gtgggaatat aaatcagtat aaccactttg gaaaaccatt taacattgtc      540
aactacagct ctacacacaa gtgctataac cacccattcc actccagggt atacacccta      600
aaaatatgaa gtgcccatgt ctacccaaaa ggccgcctaa aaggaatgct tttgagaagg      660
gttaaccttg ttaattagtg gcaaaactgg gaaaacaacc cccaaatggt cccatcc         717
```

        <210> 213
        <211> 599
        <212> DNA
        <213> Homo sapien

        <400> 213
```
cctgttttgg cgaggcagga gggaagcggg atgggagtgg tggttaggcc aagggtagtt       60
caaagcgatt cagcaggatg atgaccacag gagtgctgga gccgggcctt tcagcccccg      120
tgtggatgat gaccggccat ccaggacatg cgagggcttg ggacagtgga cagccagtgc      180
cacacaagga aggaccgatt aaatgacaca gttaaaggaa tttggcctag ggagtgcaag      240
ccagaaaggt ttggtctttt tatatatgta acattggaaa aaaggaacat ctcctgttcc      300
ctgtattaag ttttgacttt agctcagcaa atgcagtgtt tgtggcagta aatatactct      360
gataacaatg ttctttccca ggaatttaga gttttatgat ggttattgaa aatgtttaca      420
tgacaggctg tcaataatat tttttgcctc taaaaataaa acatacataa agtgtacgga      480
ttttaagtat gcaactcact gaacttttca taccgtaata caccaccta gtaaccctcc      540
cccagttcaa gatgtagact gtttccaata accctcatc ctgttcctta atagccccc       599
```

        <210> 214
        <211> 789
        <212> DNA
        <213> Homo sapien

        <400> 214

```
ccttatgaca aaccttgcta tgccaaggat atgcttcact atcttcatct atcaaaacac    60
tatgcatcat agatatctaa ttttttcatc tcttgcatga agtctttcct gatttccctc   120
tgctgaaatt tctctcttca aatgatgtgt ttccatagta ctttgtccct tttcaaagat   180
atatctcaca tcgcatattt taccacagtt agtttcattt cttaactctc acactagatt   240
acaaagtcaa tatagacaaa gaaatgttca accttatata acctcctctg cctatgctgg   300
taaattgcac ctactatgtg ttcaataaga gcttgtcttt ttcaatatac aaaactttgt   360
aaagattaaa gaccttgtag aaagtcaaga ggaagatagc aatttcactt ctaagaactt   420
accctaagga aacattcatg aagagataca aggggttatg tgcatggatg ttcattatca   480
tattattctt cattatgaag attatgatgg taataatgaa aatgattatc ttgtattggg   540
ccttatttga agtcaagcat tgagaatgta ctttatctgc attatctcac tgagttctcg   600
tagcagccct ataaggtaca gactgttatc taagcttaaa aaaataaagt taatgtccaa   660
ggtcaaacaa ctagtaaaag aaggggggcta ggaaatttgg aacccccaaaa ggggcaacct   720
ctcaagggct atgaatcctt accattatta taaggaagct tggcccatgg tggcccaaaa   780
aaaaccggg                                                          789
```

```
          <210> 215
          <211> 765
          <212> DNA
          <213> Homo sapien

          <400> 215
ggatgtctga gcaggagaga gaccatgtga aggatggact gaatggagac ttgtatcaaa    60
gagtctgagt atcaaagact tgtattagag agggttgttg tagtaatcta gtcagggtat   120
gagaaatggt ttgtattaga gtgtcaggag tagtcgtggc aaaaatatat agatcaggat   180
gagggatggg cctcatctca caccctgact ccagtcaatg gcagtggctc cctggagtac   240
actactatag gaaggatttt gtaaagtttt gtctggcctc agtggagggt gaggtagggg   300
aggagttcta tgaacagtta gtggtgtctg ccatggttga aacaatggag aagggggaca   360
cctttctgt gcagatgttg cttctggtag atataatcca caatgtaatg ggagaagtac   420
taagaatcag taaattatgg agggtgtaaa agactactga tatttaagcc tgcggaccgg   480
acttagagaa atgatagtta aaggagaaat atccagcaaa caaagatatg acattgaagt   540
ttgggactgc gattagtacc agagatttgg attggaggtg atttgtatag aatggatagg   600
tgattttact cttgcaattt ggattgaggg gtggggaaaa ccagaaaggg gctgggggggt   660
aaattagtag aaggtcacct tgaattcatt gtggtccata tcaatgctga aactgattgg   720
ggaacttttt actcttgagt ccctttgtaa gggaacccca gaaag                   765
```

```
          <210> 216
          <211> 780
          <212> DNA
          <213> Homo sapien

          <400> 216
cctttttctg tggcaaatgg aggcttttca ctgcctgtag agacaataca gtaagcatag    60
ttaagggggtg ggtcagaaca tgttaagata acttactgta tatgtattcc cttgtatttt   120
gttaaagctg gaacatttga tatttttcca tttatttatg aaaaaatatg aacctatttt   180
catttgtaca aggtaattgt tttttaaagc aagtcacctt agggtggctt taattgtata   240
agtcaagcac atgtaataaa ttcaaaacct gcagttaaca ggatattaga catcaatcct   300
ggtaaccaaa tattaaagat tctctttaaa aaagactgaa catgtttaca ggtttgaatt   360
aggctaaaag gtcttgcagt ggcttttcat ggcccttcaa attggaatgg aactactgta   420
ctttgccatt tttctataaa tcagtacttt tttttaatt ttgatataca ttgtgtgaaa   480
aaagaaaatg gctaataaac tgtattaaat cttaaacaat gtataaagat tgcacttagc   540
cagttcaaag tgtatactta ttcataatga attataacag ttatatttct gtgttttctt   600
gtaaatgttt ctttttcctt aaatacagat aattcatttg tattgcttat tttattatga   660
gctacaacaa aaggacttca ggaacaagta atgtattagt atggttcaag attgttgata   720
ggaactgtct caaaaggatg gtggttattt taaatataaa tagctaatgg gggtggtaaa   780
```

<210> 217
<211> 810
<212> DNA
<213> Homo sapien

<400> 217

```
cttttaggca gcccggcacc ttcatccata ggcagagaga gaactgggtg ttggagactt     60
attcgagggt ataggaaggg ccctgtgaag ttgatttaac ttttggatgt cagactgtga    120
aagctcctga gaaacttggg gtaataggat cttcttttgg ggatgaaaat ggggaaggcg    180
tgaggaccta gactacttct ccctaggtca gaaaaagaga attacccctt gacaaatatg    240
atacctgcta ggtatttccc agggaaattt agggattggc gtctttccct agcatgtgga    300
ggaattggca gacagcttcc taagggcggg gagcggggc ccaaggctga cactgcttgc     360
atccacgtga ccttaagtta tggcagatga ctctgaaacg gactgaggcc aatgagaaca    420
gatggatgga gcactcaggt tagacttgtt ccttctccta tgctggagga gagggatggt    480
tctctagaat gttggaggtg agttgagagc tcgcctcttg aatgttgaac agtgtactct    540
tctgaaaact gcatattcac tttatgtggt ttcagaatac tgggctcaat actaacataa    600
gaaagacact tcattgagaa attcttaagc ttacagaaaa cctatctctt tgcacattcc    660
acataacccc tagcaaaatg caggttcttc atacttctgt ccttttttcca ttggaagaat    720
tgcttaagga aaaattaatt cctatttatt cccacaaaag gttgggcatt gctttgattt    780
taccccatgg gggaatgtgc ctttgaattt                                     810
```

<210> 218
<211> 817
<212> DNA
<213> Homo sapien

<400> 218

```
ctgctccctt atggaggtct cttcattaat aattattgga tagatagaga aggtgagcct     60
gtggcttcca agtaccggct tttgctgaag gtctacatgg gaagaagagc atcatttgat    120
attcagtaga tctgccacac ccaactggct ccatctcctg gaaaacagca ctcactacaa    180
gcaactgtaa tagcacccag caatgaccac gctgctcctg ctggctcttc cgtacaccag    240
taaatgaact caccaatgta ttgcacacat acatttcaca gtagtacaat aaagccctgt    300
atcaggagtg gtaattcaat gacttgactc tatagtgcac tgcagcttta tgtcatacca    360
acattcaaat attcaaatat ccttccaatc catttggaca aaaatacacc atggctgcca    420
agacacatgt atttttcttt cttccatgga ctcctaaact gctcccacaa tcagcagtgt    480
tcttctctca gaaattatct taagcttctc tactcaatgg gaggtacaca cagagacctg    540
agaatatgca gaggccagaa tctctgtctg tgctagagat caactgtact ctgcccacct    600
ggggaacaca tcctctgggt aaagtactcg gaagtaaatt acattccctg gagacagata    660
cgggctttca ctgcagcctg ttagaaaaca caatgtctgt aagttacctc ataggtcaaa    720
gagttttgga ttatattttt cataatgggg ctatggcctt tttaccctgg ttttaataca    780
gaaccacctg cagaaaggac attgaaatta aaagcca                             817
```

<210> 219
<211> 661
<212> DNA
<213> Homo sapien

<400> 219

```
ggatgctgag gcaggaggat tgagtcctgg agtttcagga tacagtgagc tatgatcatg     60
ccattgcact ccagcctggg caacagagca agattctgtc tctaagaaaa ggaaaaagaa    120
aatgaataga tagtggtatt agatgttaat gacatcagtt gtttttattc tttattcttt    180
cttagaaaca gattagtttt ctcgaattaa agaactacca ttttttctttt ttctacaact    240
ttcaagagct ggtgaagaaa tgatgtttag atttaataga tatagtagca gtcatatatt    300
```

```
aatagaatag aaactgagac tctaggaaaa agatagacat gagataagga gtaggcatgg    360
tagacatttc tagattattt atgaaaatgt tgtagaattc attttttttt ttggtctgac    420
ctttggcaat ggtgctgagg aagggaaagc cagcccatca ggcaaggctc tgttttctgc    480
attttatccc gtttgattct tctcgttagg attggagcaa ataatttcaa tatgttcttc    540
gctgggttta tcatagtgac ccttcattta aagggacttt taacaattga cttaaagaac    600
actgagatgt gatattttat tgggatttga aagttgccat tgggtttttac cttccttaat    660
t                                                                     661
```

```
<210> 220
<211> 792
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(792)
<223> n = A,T,C or G

<400> 220
cctctttttta ttcctacaaa taattttcaa gtacacacaa ttgggtaaac aaagaaacaa    60
agccaccaag aatgaaaatc agtaggaata acgaacaaga ctcacagatg tcaaacaagt    120
ctgtgggtct tgcagacttc agatgttgga attattagtc gtggcaagng nncaaaacat    180
tagctattac cattatgttt accaactagt gaagtgaact atgagaggat atattaacca    240
cagaagttaa tagaagaata gactcctgaa aatatctgga tgctacaaac taaaatatag    300
tatataatcc ttcatagagt gtcagtgact tcatatttat aattacattt ttgtatatta    360
gcagtgttct agttcttact gccttatctt taagctgann nnaaataaaa ttatattttg    420
ggattcaaaa acacatagct aatgattact atgtggcagt gttacattac tttatcacat    480
atcattaaca taatctgcat gtgttcaaag agatcttcat acttctttgt agctcccact    540
tctttgtcgt ctttgtagct cccacaacat ctagaacagc acaaccgtat atggagaaaa    600
ctcagtctag tattcgttga atgactaatg gaaaatttag ttnataaaca gaactttctt    660
cattgnacaa attatcttgc agaagaataa tggccttagt ttaaaattat catatttacc    720
catntcncca ngttatttta tctctttttgg ctaanaattt tgaaaacggt accttttacc    780
ctttggcatt tt                                                        792
```

```
<210> 221
<211> 759
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(759)
<223> n = A,T,C or G

<400> 221
cttttctgct gctccgggag gtggagtggc ctggcagagg gcacatggct gccacctgct    60
gcaaggaaaa ttctcagtga agactcctca gtatgaagga gataagcctg cacaatcagt    120
cactgataga tgcttagtgg aaaaacttcc aattcccatt tacagctctc agagctagga    180
ttaaaaactc ctggtcataa actcatgtga tgagaagtta tagcacgccc tcattttcta    240
catanccact tgcatttatg gttggctttt gaacttgcta gaagggaaag aagtgcaaat    300
gtgtcctcct tagagctact ctcctcccct tggtgggttt ccagtttgtg cattgtccag    360
atggcccagg agctgacgat caaaggggaag aagtcatgtt tgtcatgaga atgctttgct    420
gcatcaggat tcagtgaagc tgttcaccgc ctggagccca tgcagcctca agaggcagga    480
tggagctcag aaaccatcac tgaggttaga aagtgagcac caaagttgag ggaagcccac    540
```

```
aggagtgagc cgaagtgctc cctttggatt tccaaagtgg gtgctgctgc ttcttccatc      600
agccttgctt ctgaccccaa tgcgttcctg gtgccttctt cttggcattt tgctgtcggg      660
ggcccaagga aaaaaattcc tgcatggcag tggtgaaaaa agatggctgc ctgctgaaac      720
ctgatttggc ctgggtaagc cttttggagc cccggttaa                            759
```

```
        <210> 222
        <211> 699
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(699)
        <223> n = A,T,C or G

        <400> 222
ccttntnaag agttggcatt aattcttcac taaatgtagg agtagaattt atcaggtaag       60
ccacactgac ctctggnctt nttnncgccc gatgattttt aattagttga atccctttac      120
ttgttatata tgtattcata tattctgttc cttcttggat ttacttttat gattggtgcc      180
tattgaggta tttatttcta gtttgtggta cttcatgtgt ttaggttttc tagacagtgg      240
acatagaaga ttcaagaagc taaatgtagg agaatgtnta atgtaggana ntgaggcnac      300
natatcatca atgaatgact tgaagtttcc tctgttgtaa agaatgatat taccataact      360
gccatagnta atattgatgg tgtaagtcaa ataanaaggc aggaggaaag ggacatccat      420
cactgaacca canatcagag nctcattgaa gcctttgaga agaatccaca aaattttaca      480
ggataattca tttcctgcga tcaccacnag aagagaaact ggttaaacag acaggtattc      540
cagagtccaa aaatttacat ttggtttcng aaccaaagac ctcagctccc aggccacagc      600
aaaaggggc  ttatgaattc cctggcaccc agncccaaga cccaanaacc tcatcttgat      660
tggtttnggg cttgggaaac caaaaaacca atgggtggc                           699
```

```
        <210> 223
        <211> 598
        <212> DNA
        <213> Homo sapien

        <400> 223
aaaaagagaa agtttcagat ttgccattca aggcttattt atatatatgt gtgtgtatat       60
aaatacatgc acacacttgc atacatatat attttttggct ggggggagtgt gagttttgcc     120
tttctaaggg agggaccgcg caggctcctt tgttctgtat tctggcggag atgggtcctg      180
gccttgtgtc actggcttat ccttaaagat catctcccat cctccccagc gccatctgtg      240
tgcagcaacc agaaagggat gaacttggcc ctcttgcggg cctggacaag gtctcttcct      300
tacccttttct gttgccagtc agcaacctgt aactcacatt ctcttcccag tgaatccctg     360
ggagcgcctg accctggtgg gctgttcagc ttcctgctgc tggggccagc aattttttgag     420
gatttatctt taggccaggc ttgcctccgt acttatccct gctctcccat ttctctcttg      480
tttgagagag aatgaggaag caaagagtga gaaagaatag gggctgaaga cgccactccc      540
agatggctct ttctatcctg ctcttctgtt gaaacacacg tgctgtgggc ctcaggcg       598
```

```
        <210> 224
        <211> 501
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(501)
```

<223> n = A,T,C or G

<400> 224

```
aaacctttat gatgacttcc ttatgaatta ctgaacgaac actggaatgg gactcaggta    60
tcctgaggac atctctcaac tctggcctta gttccccctc tgtaaaatta gggtgccaac   120
taaatgatct acaaggtccc ttccagcgcc gccattctgt aattacatca tgtgtaactg   180
tattaaacat acacaagtga ctgccaggca tgggaatgta acttccgagt aaatgctttg   240
gtttgttcag aatacactat gaacttcttt ccaaagacgg gttgtggtaa atagtggata   300
ttttgattat aagaaatada gtttccttga agctttagct ggagatacag caatagtgtg   360
gtgttcctac aaatatcaca gtgtattcaa acatatttt ctatcaaaaa tcatttttgt   420
aaaagctgtg tgtttttatc caacttgtga taataaatgt tctttatttt agaacaaana   480
aaaaaaaaaa aaaaaaaaaa a                                             501
```

<210> 225
<211> 295
<212> DNA
<213> Homo sapien

<400> 225

```
cctgtatagg gctcgtttcc ccacacatgc ctatttctga agaggcttct gtcttatttg    60
aaggccagcc cacacccagc tactttaaca ccaggtttat ggaaaatgtc aggaaaaaaa   120
aaaaaaaaaa cacatgcact cacacaatac ccaaacatca raattagaag ggcataaaac   180
agggggcttt ataggctgaa aaatatctta ratttcaraa cagaatacca atcaaatatt   240
gaaaattcct ttgttcaaaa cacaaagatg ttttgttttt aatgggagtt ttttt        295
```

<210> 226
<211> 372
<212> DNA
<213> Homo sapien

<400> 226

```
agattcctgg cttagagcat gcgagcattg aaggaccaat agcaaactta tcagtacttg    60
gaacagaaga acttcggcaa cgagaacact atctcaagca gaagagagat aagttgatgt   120
ccatgagaaa ggatatgagg actaaacaga tacaaaatat ggagcagaaa ggaaaaccca   180
ctggggaggt agaggaaatg acagagaaac cagaaatgac agcagaggag aagcaaacat   240
tactaaagag gagattgctt gcagagaaac tcaaagaaga agttattaat aagtaataat   300
taagaacaat ttaacaaaat ggaagttcaa attgtcttaa aaataaatta tttagtccgt   360
atgaaatgaa at                                                       372
```

<210> 227
<211> 599
<212> DNA
<213> Homo sapien

<400> 227

```
ggcccccgtc gcgggagccg cttcgggcct tctgggcatg tctgccatat ggctccaggt    60
ttgttttct ccccggcact ctgacgggga gggctcccgg catctcctgg catccgggta   120
gaggacgcgg aggatgctga gctgctggcg cactgcagca caactagaga tgtacggatg   180
cccccatctt gatcttacag aatcagaggt acagccgcga gaaagagtca agaacagaca   240
gagtcgcttg aggactcagg agggtgtttg ctgcgttgac aacagactac accctcacag   300
tttgctctgc tcttccaaca ccagtggaag atgatcacat cccagggatc agtgtcgttt   360
agggatgtga ctgtgggctt cactcaagag gagtggcagc atctggaccc tgctcagagg   420
accctgtaca gggatgtgat gctggagaac tacagccacc ttgtctcagt agggtattgc   480
attcctaaac cagaagtgat tctcaagttg gagaaaggcg aggagccatg gatattagag   540
```

```
gaaaaatttc caagccagag tcatctggaa ttaattaata ccagtagaaa ctattcaat        599


        <210> 228
        <211> 343
        <212> DNA
        <213> Homo sapien


        <400> 228
aaagtaaatt gtatgaaaaa ttcatttctt caattgcatt agccacattt tgagtattca         60
tgtggctggt agattctgta ttagcacaaa gatatggaac atttccatca ccacagaaag        120
ttctgttgga cagcactgca ttagaatatt ttcatactgc tcttcctcaa ttaatttttg        180
ttgttaatgt tgatgtcttc attggatggg tcataatgtt ccatgaaacc gctcaagtac        240
acaattgtat gttctttgta tcccttacca caaatatctc gctctgctca tttcttttgc        300
agcttcctat aaagtttgtc ttcctcaaaa aaaaaaaaaa aaa                          343


        <210> 229
        <211> 417
        <212> DNA
        <213> Homo sapien


        <400> 229
ctcaagctgc agtccaccgg gtatggttct ggatggttcc cccaagggag caggtatgta         60
ggaggtgaag aaaactgaga tttcaagtat gggagagttt ttactatctc cattcctgga        120
ttaaaagtgc tgaaaaagtc cacagttaaa cattccttta ttcaccctat ggctcccaag        180
aaaagcattc ttcctctgga gtactggtgt actaagggga caatacacca aatttgttga        240
gtttacaatc aagtctacta aggttggact tccttatcag tttggcagag tcccagggca        300
gaataatcat ccatctacag gtctctgttt cctctccctc cgcagcagtg gagagcatcc        360
cagtgtttgg ggcactgtgt tcctcttcgt ccctgcacca gaccctggaa gccttgg          417


        <210> 230
        <211> 462
        <212> DNA
        <213> Homo sapien


        <400> 230
gaaataccag aagagaaagt ttcattgtgc aaatctaact tcatggcctc gctggctgta         60
ttccttatat gatgctgaga ccttaatgga cagaatcaag aaacagctac gtgaatggga        120
cgaaaatcta aagatgatt ctcttccttc aaatccaata gattttctt acagagtagc          180
tgcttgtctt cctattgatg atgtattgag aattcagctc cttaaaattg gcagtgctat        240
ccagcgactt cgctgtgaat tagacattat gaataaatgt acttcccttt gctgtaaaca        300
atgtcaagaa acagaaataa caaccaaaaa tgaaatattc agtttatcct tatgtgggcc        360
gatggcagct tatgtgaatc ctcatggata tgtgcatgag acacttactg tgtataaggc        420
ttgcaacttg aatctgatag gccggccttc tacagaacac ag                          462


        <210> 231
        <211> 328
        <212> DNA
        <213> Homo sapien


        <400> 231
ctgtgggttt tcctaaacgc ccctcatctg gttgaagccc tagtgtttct ttctcacatc         60
agaggcaaat gcattggggt gggtctggtt tggacaataa atttcctctg gtttggacca        120
agaaaaacag agttctttga ccgctaacat atatgtaaaa agaaagtttg taaaaacaag        180
agttaaaatg cttctaacag tgtggtcatc actgcacagg acactggaat tggcattcgg        240
```

```
ggttgtgtct gtccatgtgg tttcgttgta tgtcatgtgc tctcagctca gacagagaca    300
tccaattgac ttctgacttg gggcattt                                        328
```

```
        <210> 232
        <211> 595
        <212> DNA
        <213> Homo sapien


        <400> 232
cgccaatttt agcaaataag agattgtaaa agaagcagat tgaatgaaga atttttagct     60
gtgcagatag gtgatgttgg gatggaaaat gctaatcaac tacccttcct tttatcaagt    120
aattaaaata aatctacata aagaaccaaa aaggctgttt tataaaagtg aaatatccag    180
tatttcagag ggccaggcaa gagcacttca gatgaggcag tcaaaatcat ttttttccag    240
tgaggataga ccacaagtgg gtggtgagac cattgaaagc ctttatcaac tgaagagtcc    300
atttaacagc ataatttgtg ggaagactgg aatagggctg aataaatgtg tttgaatctc    360
taattttata ctttcttttc ctgaggaact tgattttct gtccctggat cgccttgtca    420
taattgggtc tgttccttttt actaccactc ttgagtccat atatgaaatc attaaagttg    480
gatgatcagt tttttataaa aatatatatt tttgtccaag aaaaaaaaaa gcatacatat    540
gtgattatgg ctaaatcaaa ggtaactgga atgtatatac ttttgctaat gttcc         595
```

```
        <210> 233
        <211> 600
        <212> DNA
        <213> Homo sapien


        <400> 233
atgaaggtaa actctaaaat cttcataggt caacaaagaa aatttatcct tcacacttat     60
ttctagaaag cagcagggct tatttcctag attgcttaca atgaagctag aatatctgcg    120
ataactgtag agtttcaaaa aggatcccta gggctacttc tacgttctcc ttaccagttg    180
agcactctcc ataatttcca gacgggtcat gggggagaat gatagaaatg agcgtgggaa    240
gaaagacaat gaaattagaa atgggtgaga cacatggtgg tagaatgcta agagcaggga    300
tcaggacaat caaccaggtg tctaggaagg gtcaagtcac cagtgtcatc tgctgaccaa    360
tgttaggaag aaataaactc aaaggaaaca ccacattttt ccaattaaac tcaaatctat    420
tgacttgtgg tggttctttg atgttgtggg gactgctata acagaaacca attggatttt    480
caagggcaag aaactttgcc actgaataag atgatgtcat ccttcctgat aacaaatagg    540
aatgggtggt cagctctaaa cagcgtggac tgagggagtt gcttttctac aatattactt    600
```

```
        <210> 234
        <211> 500
        <212> DNA
        <213> Homo sapien


        <400> 234
aaattcctaa ttcttttact atcttctcaa cttttcccaa agataaaata aatttcacat     60
aatttcatgg aggggaaatg gtagttgtaa aaaactacct caagtagcaa tcaccgctgg    120
cagtgttttc tcactttctg ttctgcaatt gcaatcacac ttccaaaaag aaaagcaaat    180
gtttgctaaa ccatagacag acaacctctt tgtgactggt attataaggt ttataatgaa    240
aacttatcaa atataaaagg tgctccctct tgaaaatgtg tattttattt gaagttttga    300
gtaagaggtg agtgtttggc aatttcaac actcccctca aaaatctccc aaagttgcaa    360
aaaagtcagt ttagtaaaat tccaagcact taaatgcttc attgagggcc agttgatata    420
cgcaatgcac taatgtgtaa aaattaaccg aatgcaacta ttttataatg gagagctctt    480
accttttcct tccagttttt                                                500
```

```
        <210> 235
```

```
<211> 159
<212> DNA
<213> Homo sapien

<400> 235
aaaatttaca gataaaggca gttcaatact gccactgaga agtacatctc ttaacatata      60
caactttcag gccacagttt tgaaggtctg aagtattaag ttggtttgat gaattagtcg     120
gttggcactt acgaacacat ttattgcctt gccatcttt                            159


<210> 236
<211> 254
<212> DNA
<213> Homo sapien

<400> 236
aaataagtga ataagcgata tttattatct gcaaggtttt tttgtgtgtg tttttgtttt      60
tattttcaat atgcaagtta ggcttaattt ttttatctaa tgatcatcat gaaatgaata     120
agagggctta agaatttgkc catttgcatt cggaaaagaa tgaccagcaa aaggtttact     180
aatacctctc cctttgggga tttaatgtct ggtgctgccg cctgagtytc aagaattaaa     240
gctgcaagag gact                                                       254


<210> 237
<211> 591
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(591)
<223> n = A,T,C or G

<400> 237
tttttttttt tttttttttt ttttttttcta attttttactt tttctcaagt ttaatgtara      60
catacaaraa aacatcaagc aatgtttatt gkgcaattcc aatcattatt tgcaraatct     120
tggtttaaag tcagtytta tagccatttc aactgcttgg tttaaacaaa aagcaacaat      180
ctggttatyt acctataaat ttcatggtat ttytttaaac actgaagtac taaaagcact     240
gatgatttgt attataattt ttaaaatatt taaaacctac acagatttca taratcattc     300
cttttataaa ataatcaaaa taatttgatt atytggaaaa aaaaattctt gaaacaragc     360
cctttccagg tatyttcaat ctctgtaaaa ccccaaaccc caaacagagt aratgatgaa     420
ataaggattt ctcagttgcc caagactgtc tgaaatttaa ggttgaaaaa tggactggcg     480
ttttttcatgt ttcctgngaa ttcanagctt acaggtggca tcaaaactca aatctctggg    540
atggctttac atggctttca ctttgatttg tttcatttc atttgcttct t              591


<210> 238
<211> 252
<212> DNA
<213> Homo sapien

<400> 238
aaatggcttt tgccacatac atagatcttc atgatgtgtg agtgtaattc catgtggata      60
tcagttacca aacattacaa aaaattttat ggcccaaaat gaccaacgaa attgttacaa     120
tagaatttat ccaattttga tctttttata ttcttctacc acacctggaa acagaccaat     180
agacattttg gggttttata ataggaattt gtataaagca ttactctttt tcaataaatt     240
gttttttaat tt                                                         252
```

```
<210> 239
<211> 153
<212> DNA
<213> Homo sapien

<400> 239
ccacaataaa gtttacttgt aaaattttag aggccattac tccaattatg ttgcacgtac      60
actcattgta caggcgtgga gactcattgt atgtataaga atattctgac agtgagtgac     120
ccggagtctc tggtgtaccc tcttaccagt cag                                  153


<210> 240
<211> 382
<212> DNA
<213> Homo sapien

<400> 240
aaaaaaacca tctaaaagtg gttttttaat atatatattt tttccaaagg aagaaatttc      60
ttgcttttac tcagggaaaa aaaaaaatta aggtacattt gagtagaatg atttcatcta     120
aaagagttct ttcaggagac atctgtgatt cactgcattg tttttatttt cttctttttc     180
ctcttctttt ccaacatttc taccattttc ctcttcttgg ttgatatcag gccactttct     240
tttgttgctt tcttactgtc acctgttaaa ccgcgtttct ttgtgttagg ttttgaccgc     300
ttttcttctt tgtgcactgt gtcaccaggc tccttttgc caattttgga ctgttcttta     360
cttacaggag aaggctctgc ag                                              382


<210> 241
<211> 400
<212> DNA
<213> Homo sapien

<400> 241
ggcatgagcc accgcgcccg ccctatctt ttacttttat aaatagagat gaagtttcac      60
catgttgccc aggctggtat cgagctcctg ggctcaagcg atcccccaac cttggccttc     120
caaagtgctg ggattacaag cgcgagccac cgaaattatt cttaactagc aagactaggc     180
tctgacatca catccttata gttacatccc tttaagcagg gttcagccac tcactctgca     240
cctggagaac ttgatggtta tccctcgaag tgacagtcct gcaaatgaca aaaacactcc     300
aaatctatta ggttggtgca aaagtaatta cgctttttgc cactgaaagt aagtcccaca     360
ggaccctgag ggaaatggga gggtggggta tacatagcag                          400


<210> 242
<211> 75
<212> DNA
<213> Homo sapien

<400> 242
actcacatat gcagacctga cactcaagag tggctagcta cacagagtcc atctaatttt      60
tgcaacttcc tgtgg                                                       75


<210> 243
<211> 192
<212> DNA
<213> Homo sapien

<400> 243
```

```
gctccacatt tgtagcgaac actttgactc caaagagaag gaggaagaca aagacaagaa      60
ggaaaagaaa gacaaggaca agaaggaagc ccctgctgac atgggagcac atcagggagt     120
ggctgttctg gggattgccc ttattgctat gggggaggag attggtgcag agatggcatt     180
acgaaccttt gg                                                          192
```

```
    <210> 244
    <211> 616
    <212> DNA
    <213> Homo sapien
```

```
    <400> 244
aattttatag caatatactg accattctaa aaataacaaa atacatgttg ctctcaacta      60
catagttaaa aaaggtagta aattctctta cccaaaatag aggaggggtg ggctagtgag     120
ctgctcaaac atttgtaaca aataaaaatg tatctatata catataatga tcatgttttc     180
atagcctaaa atcaccatac aaaatctaat aataaaattg tgtcgtgttc aggagttggg     240
aagccaacac attaaattaa caaagtattt ttggtatatg taaataatgg gatagaatct     300
ctcgaatcag gattgtccca gaagttctaa ggcagatgtc aatgacatgc acattgtcca     360
tgttcagtaa ttttcaaaga ctagaataaa ctatgtaaac tattcaatac aattcaatat     420
tacttaactg ctaaaaagta cttcaagatc ttgcactgcc ttgagtgagt ataatcaaat     480
tagtaattgg aaaatagctg taatagcagg cactgaagaa ttctgacaaa taccaaataa     540
ctgtttgttt ttaccaaata aactggtaag atgatatcac aaagggtttt aagttatttt     600
gctatacaag gttttt                                                     616
```

```
    <210> 245
    <211> 165
    <212> DNA
    <213> Homo sapien
```

```
    <400> 245
ttggaacagt ggattaaaat ccagaagggg aggggtcatg aagaagaaac caggggagta      60
atttcttacc aaacattacc aagaaatatg ccaagtcaca gagcccagat tatggcccgc     120
taccctgaag gttatagaac actcccaaga aacagcaaga caagg                     165
```

```
    <210> 246
    <211> 229
    <212> DNA
    <213> Homo sapien
```

```
    <400> 246
tgtactggat ccctccaggt gggggcgact ctcacctgac tattacaata gcctcctaag      60
tggtttccct acttgcaacc ttgcccgtat aatatctatc ctccacacag caggcagggc     120
gatcctttaa gaatagaagt tagatcatga aaatgctctg ctctgatccc tgcaaaagct     180
cgccacctcc ttacagtcac cgctgaactc gtagcagagg ttcaggagg                 229
```

```
    <210> 247
    <211> 338
    <212> DNA
    <213> Homo sapien
```

```
    <220>
    <221> misc_feature
    <222> (1)...(338)
    <223> n = A,T,C or G
```

```
        <400> 247
ggaaaccgtg tgtacttatc ctggatgatg ccaccagtgc cctggatgca aacagccagt      60
tacaggngga gcagctcctg tacgaaagcc ctgagcggta ctcccgctca gtgcttctca     120
tcacccagca cctcagcctg gtggagcagg ctgaccacat cctctttctg gaaggaggcg     180
ctatccggga gggggggaacc caccancagc tcatggagaa aaagggggtgc tactgggcca    240
tggngcaggc tcctgcagat gctccagaat gaaagccttc tcagacctgc gcactccatc     300
tccctccctt ttcttctctc tgtggtggag aaccacag                            338


        <210> 248
        <211> 177
        <212> DNA
        <213> Homo sapien


        <400> 248
tgaaaacaaa tgaattctca actcctacgg ttcatgtaga gtttagagaa aatttccatc      60
attgtcatca ttgaactgtg aacctgggaa gccagatcat gattaacact gacatcaagt     120
ttcaagttgc agatcaatgc acccagtgtt cagatgaggc aaacttctcc gtgacaa       177


        <210> 249
        <211> 263
        <212> DNA
        <213> Homo sapien


        <400> 249
aaagtaatga ctttattaat aaatatacat ccatatgatg atgtagatac aaatcatgaa      60
cactactcca ttcccataca cataattgca cacgagtagc tcaagttcat ggacataaaa     120
acatacacag tatctattca gactttttac agcagaggac agcgtgctta ttatcagtta     180
attggtaatt attttctcca aaattacctg tggaaaaaag aaattctgaa aacttaaaag     240
aatcaaagtg atctgattac ttt                                           263


        <210> 250
        <211> 333
        <212> DNA
        <213> Homo sapien


        <400> 250
aaaaaaaaca acagcgtaaa tattagccca caagagcagt cctaaacaat cacaattaca      60
ctgtactacc caagaagact gtttattgtg aagcatttac ctttcaaaaa atcattacat     120
ttctatttct tggtggagca gcacattgtg gagtgtgatt cttaattctt cattgagttt     180
gtcaatagga cattgatgct ggataggttg tcttttgttt ttatgcctca gaccatcttg     240
tgagattgtt tgcctatctc ataatacagt tttatgcaga aaggttgaaa ctatgtaaat     300
ggttttatg gaaattatca gttacaatat ttt                                  333


        <210> 251
        <211> 384
        <212> DNA
        <213> Homo sapien


        <400> 251
aaaccatttg tacaaaactt ctataaattt ttctctctct ttctctctta tgtacaaaaa      60
tatcttaata tatccccgaa ctggttagga tagatacaaa tagattttt ataataaaaa     120
attcacaaaa gattggaagc attctataat gaaaatggta gaaaagacag tgtgagggaa     180
gccatggggt ttgggaatcg ggccctggag gagaagcaga gtttcaaagg gctgagaata     240
gcatagtttc actgtaaacc aatgtctaca gcttattggg gtgggggcta ctgagacgaa     300
```

```
agacaccaac tcgtttctag agggctaaga actgcacttt aagaaagggc ggggaggtga      360
agggacccga gcaagaactt tcag                                             384
```

```
    <210> 252
    <211> 211
    <212> DNA
    <213> Homo sapien
```

```
    <400> 252
aaagcagtct gaaaatggga catctgtaga gaaattcatt tccttcttct cctccggatg       60
tggaatggaa gctttgaggg aaggaaaagt aggaaaagag cgggatggga tgggatggga      120
tgggatggga tgggatagga agagaggctg gggaatgggc agagaagggg gtgctgagtg      180
tgctgtgaga tagagcaaga tcacaagaag g                                     211
```

```
    <210> 253
    <211> 135
    <212> DNA
    <213> Homo sapien
```

```
    <400> 253
aaaaattgtt tcttgacaag ctgacttggc acttaagtgc acttttttat gaagaaaaag       60
tacaatgaac tgcttttcct caagcaataa ttgtttccaa cttgtctggg aattgtgtgt      120
ctggtaactg gaagg                                                       135
```

```
    <210> 254
    <211> 361
    <212> DNA
    <213> Homo sapien
```

```
    <400> 254
cctgtagccc ctgctacacg ggaggctgaa gtgggaggat cacttgaacc aatgagggtg       60
aggttacagt gagcccagat catgccacta ctctacaggc tgggtgataa gagtgagacc      120
ctgtatcaaa aaaaagacaa ggaaaaaaaa aactgggccg tttgtttttg cagaatgtct      180
ctcaatttgg actttttggg caggaataca atacaagtga tacaaatgct tctttaacat      240
tagaacctgt ataaaattac cattacagac cttgctattt tacttatagg taaatcactg      300
tttaccaagg taagtctttt gggaatttcc aaaaatgaag tccatggaca gttaaaaact      360
g                                                                      361
```

```
    <210> 255
    <211> 331
    <212> DNA
    <213> Homo sapien
```

```
    <400> 255
aaaaaaataa ataatccacc aacgtgattg accttggcga gatcatgttt ctagtctata       60
cctcagtttc cccatctgta aagtgaggat aatgtcccac cccatgtaac tgtggtgagg      120
accaactgca acactgtgcc tgcgagtctc cttggaaaag tgtaaggttc tacacaaatg      180
gaaagtgatc tgatcacact cagtgtcccc agcccagcct ttcagtgccc tggccctggg      240
gtgggggaca atactctcct cacccccttc actagtcttc atgaatagca aggaggccat      300
aacataattt ggtctaaacc ccttcctttt t                                     331
```

```
    <210> 256
    <211> 186
    <212> DNA
```

```
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(186)
        <223> n = A,T,C or G

        <400> 256
cctttgggcc cttgcacttt gacctgcaat ggggccacac cagccttgct tgtgtccacc      60
tggaaggact gagggaggtt ggcacgaacc atgcctgggc tcaggccggg cccanagcac     120
ttgaccttgg acgcatctgt cacatcatgc acagggacct tgaaaggact gcctggcact     180
tgatgg                                                                186

        <210> 257
        <211> 255
        <212> DNA
        <213> Homo sapien

        <400> 257
ctggggtccg tcaccgacct ttggggaact gggctacggg gaccacaagc ccaagtcttc      60
cactgcagcc caggaggtaa agactctgga tggcattttc tcagagcagg tcgccatggg     120
ctactcacac tccttggtga tagcaagaga tgaaagtgag actgagaaag agaagatcaa     180
gaaactgcca gaatacaacc cccgaaccct ctgatgctcc cagagactcc tccgactcca     240
cacctctcgc ggcag                                                      255

        <210> 258
        <211> 604
        <212> DNA
        <213> Homo sapien

        <400> 258
ctgaatttgc aatggagttt ggtggtgcaa tcggtattga ttagtttggc atagacagat      60
gcagcagttt agagcaaaat cgagaaaatg attttttttt tcctccttga tttcctggca     120
gaagatatct tacttttca gcaaactttt cttttaacac taaagcagcc tagggcaatg      180
ccagatactt agagctttc tcttgattat aagtagaaat ggggtgtct gggctagagg       240
tggagggtgg atgtgctgtc gtcacagtct agctggcagc aagcaaggca aaagcagaga     300
ctgctctaga agcggttcca agcagcagag acgtcaggaa aggcacttct tagtaccaac     360
ctctatgctt aatagttgc ttgttaagct gcttcatggg ttgagacaaa ctaccagcac      420
ttcaaagagc tcagttctct gctcaactct cttctctagt tacattattt ttttccttc      480
aggagactga ggcaggaaaa tcgcttgaac tcaggaggtc gaggccgcag tgagccaaga     540
tcacaccacc gcactccagc ctgggccttg caaagtgcta ggattacagg aatgagccac     600
cagg                                                                  604

        <210> 259
        <211> 429
        <212> DNA
        <213> Homo sapien

        <400> 259
aaaaatgtct gtatcgagat cttccagttt gaagtcttcc tcctctgtgt cttcccaagg      60
ctctgtggca agctccactg gttctcccgc ttccatcaga accactgact ccacaatcc      120
tggctatccc aagtacctgg gcaccccca cctggaactg tacttgagtg actcacttag       180
aaacttgaac aaagagcggc aattccactt cgctggtatc aggtcccggc tcaaccacat     240
gctggctatg ctgtcaagga gaacactctt tactgaaaac caccttggcc ttcattctgg     300
```

```
caatttcagc agagttaatt tgcttgctgt tagagatgta gcactttatc cttcctatca      360
gtaactgctc cgtgttcaga ctcctggttt cttccaggct tacagtggac atcatcagct      420
tcctgcttt                                                              429


        <210> 260
        <211> 385
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(385)
        <223> n = A,T,C or G


        <400> 260
ctgcaacaca tgcagcacca gtctcagcct tctcctcggc agcactcccc tgtcgcctct       60
cagataacat cccccatccc tgccatcggg agccccagc cagcctctca gcagcaccag       120
tcgcaaatac agtctcagac acagactcaa gtattatcgc aggtcagtat tttctgaana      180
cgcatatggc agacggattt gcgtatacca aggagagtgg cataggaggg aaaagcatat      240
gtggctgaaa cctgtaagtt ggtgttggtt atgcagaaat gtgtaacaga tcaaacggtc      300
ctctcaagtg tctattanat aggcaataag aactgcagtg tagctgagta acatctttta      360
gctgactata aatcactttg ttttt                                           385


        <210> 261
        <211> 230
        <212> DNA
        <213> Homo sapien


        <400> 261
ctgtactgga tccctccagg tgggggcgac tctcacctga ctattacaat agcctcctaa       60
gtggtttccc tacttgcaac cttgcccgta taatatctat cctccacaca gcaggcaggg      120
cgatccttta agaatagaag ttagatcatg aaaatgctct gctctgatcc ctgcaaaagc      180
tcgccacctc cttacagtca ccgctgaact cgtagcagag gttcaggagg                230


        <210> 262
        <211> 198
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(198)
        <223> n = A,T,C or G


        <400> 262
atgttaagta aacatgaaat ctatataaca gaacaaaaat tcactcttat gtcaatgtca       60
gcgtgttaat gtagatctat ttactganac agactctgta gtggcagaga gtggccttgt      120
taagccagga ccctgttctg caggctgtgg gtagaagcta ggaagtccct ggagtttcac      180
ccagcttttc catgaatg                                                   198


        <210> 263
        <211> 157
        <212> DNA
        <213> Homo sapien
```

<400> 263

```
aaaatatatt tctaaacaga atgggccgac tcagtcacag taactgttga tctccatagt      60
agagcaaccc acaaagacag aactgatttt tttcccataa tcaggggtga aaaatataca     120
acttgtttct gaaccaaaac cacaatttct gcagttt                              157
```

<210> 264
<211> 290
<212> DNA
<213> Homo sapien

<400> 264

```
ctggctactc caagaccctg gcatgaggct gaggacaact tacaagggct tcaccgaagc      60
agtggacctt tattttgacc acctgatgtc cagggtggtg ccactccagt acaagcgtgg     120
gggacctatc attgccgtgc aggtggagaa tgaatatggt tcctataata aagaccccgc     180
atacatgccc tacgtcaaga aggcactgga ggaccgtggc attgtggaac tgctcctgac     240
ttcagacaac aaggatgggc tgagcaaggg gattgtccag ggagtcttgg                290
```

<210> 265
<211> 234
<212> DNA
<213> Homo sapien

<400> 265

```
aaaaaaagga aaggaaagag aggaaaagaa aataaaataa gacgatttat tgcttctcct      60
cagcatcctc cttggtctcc tccttcaccg agagagcttc tagcttttcc gccacttttt     120
cggcatgatc atttttgcct gatcctttct tttctctctc ttcgatctct ttcctgcatt     180
cttcaaactt tgttttgaat ttctgtgcat tctcagcatt caggaagcgg atgg           234
```

<210> 266
<211> 335
<212> DNA
<213> Homo sapien

<400> 266

```
gtcctcatca tcccagtttg aggcagtgct ggagtgggga aggccgtctt agaccataga      60
ggttggaaga cgctgagaga tcatccagcc cagccccttg atgttacaga gcagaagaca     120
gatgcccaaa caggagaagg cacttgccca cggtcatacg gcaggttgcc acaaaaccaa     180
gatggcagcc cttcctcagc gtgcctcact gccactccca gagccaggga gccccataaa     240
acccacatca tgtcttaaga gtatatctgg ctccttgacc agcaatcggc cctgggagcc     300
accaggtggg aaaagcgcct ctgccagagt ccagg                                335
```

<210> 267
<211> 619
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(619)
<223> n = A,T,C or G

<400> 267

```
tggagctctg acgaagggat cggggaggtg ctggagaagg aagactgcat gcaggccctg      60
```

agcggccana tcttcatggg catggngtcc tcccagtacc aggcccggct ggacatcgng   120
cgcctcattg atgggcttgt caacgcctgc atccgctttg tctacttctc tttggaggat   180
gagctcaaaa gcaaggtgtt tgcanaaaaa atgggcctgg agacaggctg gaactgccac   240
atctccctca cacccaatgg tgacatgcct ggctccgaga tccccccctc cagccccagc   300
cacgcaggct ccctgcatga tgacctgaat caggtgtccc gagatgatgc anaagggctc   360
ctcctcatgg aggaggaggg ccactcggac ctcatcagct tccagcctac ggacagcgac   420
atccccagct tcctggagga ctccaaccgg gccaagctgc cccggggtat ccaccaagtg   480
cggccccacc tgcagaacat tgacaacgtg cccctgctag tgcccctttt caccgactgc   540
accccanaga ccatgtgtga gatgataaag atcatgcaan agtacgggga ggtgacctgc   600
tgcctgggca nctctgcca   619

        <210> 268
        <211> 147
        <212> DNA
        <213> Homo sapien

        <400> 268
cctataaccc agacaccagc atggacaaaa ctcagttata ctgaattcag agacaaaatt   60
cagtgacact cttctaccac ttatttaggg ttctacagca tttcactgag cagacttagt   120
tttttgtttt tgtttttacaa acctttt   147

        <210> 269
        <211> 325
        <212> DNA
        <213> Homo sapien

        <400> 269
ctgagctgta ggaatgggtt cttggtacac aagatagtat tgttgagcta gttttcgagc   60
tctgtgcaca agcactctgt aatcggggcc catgccactg tacaccaaac ctatatgctt   120
ggtaattggt tctactttgt gtacacttcg ctcatcatac agaatggatt tctgtttttt   180
ctcagttgct aataccacac catttgcagc tttaattccc acggacgggg ctcctccagc   240
tacagcagcc aaagcatatt caatctggac aagtttacca gacgggctga atgtagtcag   300
cgaaaagctg tacccgcgct ccgcc   325

        <210> 270
        <211> 428
        <212> DNA
        <213> Homo sapien

        <400> 270
aaacatatgg taaattaccg agtgacacct ctgggctaga gacctctttt gaggggagtt   60
tgcaaactac ggattcaatt tctttaacag ttatgaagtt ctttaaagaa cctgtttggt   120
attgggggt tgtggtcacc tgtgcttttc tgagatttgg cccctacatc taagttgttg   180
aatgcatgtg tgtagagttg tttatggtgc ttccctttct tcttagaagg gtctatagta   240
atatcccctg ccttatccct agtagtacta atttgtgttt tcttacttct tgacaggcaa   300
acacatcaga gcataagtgg ttcctaatgc caagctgacc tcccttgatc tctgtcttct   360
acaggatatt gacatgggac ttctttatta ccttttcagt tcactgatac cttcaaatag   420
ctttatttt   428

        <210> 271
        <211> 206
        <212> DNA
        <213> Homo sapien

<400> 271
cgtcccggag cccacggngg ncatggctgg canagcgctc tgcatgctgg ggctggtcct   60
ggccttgctg tcctccagct ctgctgagga gtacgtgggc ctgtctgcaa accagtgngc   120
cgtgccagcc aaggacaggg tggactgcgg ctaccccat gtcaccccca aggagtgcan   180
caaccggggc tgctgctttg actcca   206

<210> 272
<211> 83
<212> DNA
<213> Homo sapien

<400> 272
ctggcttccc tgagaactca acaatgcctt ttcctgaggg ccttcctcga tcatccacaa   60
tgactacagc cctctctacc tgg   83

<210> 273
<211> 472
<212> DNA
<213> Homo sapien

<400> 273
ctggagaagg tgtgcagggg aaaccctgct gatgtcaccg aggccaggtt gtctttctac   60
tcgggacact cttcctttgg gatgtactgc atggtgttct ggcgctgta tgtgcaggca   120
cgactctgtt ggaagtgggc acggctgctg cgacccacag tccagttctt cctggtggcc   180
tttgccctct acgtgggcta cacccgcgtg tctgattaca aacaccactg gagcgatgtc   240
cttgttggcc tcctgcaggg ggcactggtg gctgccctca ctgtctgcta catctcagac   300
ttcttcaaag cccgaccccc acagcactgt ctgaaggagg aggagctgga acggaagccc   360
agcctgtcac tgacgttgac cctgggcgag gctgaccaca accactatgg atacccgcac   420
tcctcctcct gaggccggac cccgcccagg cagggagctg ctgtgagtcc ag   472

<210> 274
<211> 205
<212> DNA
<213> Homo sapien

<400> 274
ccaggcggcc cgaggactta cggtcggcac ttctctgttc tcccgtgtca gcgtgtggtg   60
tcgcctgcat gggtcgtacc tggatggtgt gtccaccatc gacacggagg ggctggattt   120
gtttctcagg caatcctgta ttttaatttt agatgtattt cctgaagcat atttttcata   180
gaatgtagcg tgtaaatagc ttttt   205

<210> 275
<211> 308
<212> DNA
<213> Homo sapien

<400> 275
ctcctcgccc tccccaccga catcatgctc cagttccagc ttggatttac actgggcaac   60
gtggttggaa tgtatctggc tcagaactat gatataccaa acctggctaa aaaacttgaa   120

```
gaaattaaaa aggacttgga tgccaagaag aaacccccta gtgcatgaga ctgcctccag      180
cactgccttc aggatatact gattctactg ctcttgaggg cctcgtttac tatctgaacc      240
aaaagctttt gttttcgtct ccagcctcag cacttctctt ctttgctaga ccctgtgttt      300
tttgcttt                                                                308
```

```
        <210> 276
        <211> 201
        <212> DNA
        <213> Homo sapien

        <400> 276
aaattaactt tttcttgcaa aatattcatt tcatttttc caagaaaatc ttataaaggc        60
aaaaataaaa ttttattttg gcaaatgtca tgaagtcgat actggcagca tatggagtta      120
gttaaaaata gacaacaact gctagatata ttcaaaattc tatttttttt tctgagcata      180
gtcaaagaga aattttcatt t                                                 201
```

```
        <210> 277
        <211> 520
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(520)
        <223> n = A,T,C or G

        <400> 277
aaaaaaaaag tattcagcac catttgctca tnggtctttc agagtttgtt cttaaagttt        60
ctggaacttt cctgtctgta aagtaacagg aattactgag ctacattgga aagcctctct      120
gggacaggca gtggggagtt aagcagtcat cataaaggaa tcagtgtaca ttcagcatgg      180
tgacttgact acacaacaat cccttcccct ctactgtagc tcaagagaga catgcttcta      240
accactgagg tatgaggagt ctcagactgt tatttgctgt tagaattggt cttcccagct      300
aataacagta catctctggc acagatgcta ttggtcctta atgtcctgtg attttaggaa      360
atagtttgga tttagttcaa tttattcaga aaccaaacgt gtttaattag cttcactact      420
ctggcagagt aagggtatgc tggtttagta tctttataaa atatatataa tgtataggta      480
aatcatagtc ttaaatcata cctaaaatac tgtatcattt                            520
```

```
        <210> 278
        <211> 264
        <212> DNA
        <213> Homo sapien

        <400> 278
cgcgccgggc ggaactttcc agaacgctcg gtgagaggcg gaggagcggt aactaccccg        60
gctgcgcaca gctcggcgct ccttcccgct ccctcacaca ccggcctcag cccgcaccgg      120
cagtagaaga tggtgaaaga aacaacttac tacgatgttt tgggggtcaa acccaatgct      180
actcaggaag aattgaaaaa ggcttatagg aaactggcct tgaagtacca tcctgataag      240
aacccaaatg aaggagagaa gttt                                              264
```

```
        <210> 279
        <211> 414
        <212> DNA
        <213> Homo sapien
```

<400> 279

```
aaacatacaa taattttat tatggaaatt aatctttaca tacaaaatca gctacgtaat      60
tttacttaca aaacaataaa aactgttctt tactgtggca acaaaagaag cattttgaca     120
aatgaaaaaa attaatgcaa acaaattaaa acaatgcttt tcttttact tgcttcactg      180
tctcttctat ttattttcta tgatcatttg acacaaacat ggattacttt gatatctact     240
gaaacataaa tgataaggtt cttaaaggtt gaattaaaag tctgggtgtt caatatttta     300
gaagctgaat aaacaaaacg aaattggggt ttgtgattac agaggattta tcatttttc     360
cctttgtcca tatgaaaata tataatagaa aattacccac gggaaaacat tttt           414
```

<210> 280
<211> 262
<212> DNA
<213> Homo sapien

<400> 280

```
ccaccatgcc tggcctgctt caatttttg atgccacttt gtaaacggca cttaattatg      60
gaaaatagga aaaagcaaaa ctaaaataag gaagaggata tatatataac ttttcacaat     120
ctcttttctg atcccctta gatgcccagt caaccaggac cacacacaga tttcattta      180
tttgtagagt atatgaaaag atttaatagt ctcatgcatt ttattttacg tatactgatt     240
tctacgtttt gactgactat tt                                             262
```

<210> 281
<211> 349
<212> DNA
<213> Homo sapien

<400> 281

```
ctgtgacccg ggtgcatcag tggatatagt tgtgtctccc catgggggtt taacagtctc      60
tgcccaagac cgttttctga taatggctgc agaaatggaa cagtcatctg gcacaggccc     120
agcagaatta actcagtttt ggaaagaagt tcccagaaac aaagtgatgg aacataggtt     180
aagatgccat actgttgaaa gcagtaaacc aaacactctt acgttaaaag acaatgcttt     240
caatatgtca gataaaacca gtgaagatat atgtctacaa ctcagtcgtt tactagaaag     300
caataggaag cttgaagacc aagttcagcg ttgtatctgg ttccagcag                349
```

<210> 282
<211> 381
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(381)
<223> n = A,T,C or G

<400> 282

```
aaacactaaa tgaagcttct cacaatttct aattataaac aaaaggctga aaacagtatg      60
ggaaacaaag tttcaaaaca aagaaaagtt gagtaaaagg tgcccctct atggctcatc      120
tgaaagaaac attttactca gagaggcaaa catttctgat ctaggagtaa gtttcccact     180
cactttgcaa ggacccactc attctgcana aagacctaca agtctttctg gtctcaattg     240
caaagtacgt gaaaatgtgt atgaaagatc taaaagctaa atattagaat aaggctaatt     300
gaaatcaaaa ttgtgtgctg gtctaaatat acatcttcgg cttcttcctt tttagtaagt     360
atttttattt cagatgtatt t                                              381
```

<210> 283

```
<211> 543
<212> DNA
<213> Homo sapien

<400> 283
aatatagctc ctccctaccc ccaacaatgg accctgccca ttgcctccca gttccttgat      60
cttcctaggt tccacaactc tcttttttcct tttagtttta ttccctccag ccaaacctct     120
cttattcaat attttgagcc aatgggggag ttatgtagat ttttttccct acacattagc     180
tggccccttt tatgaccaat gactcataag gcaagatgtg tggtggcatc ttcggacagg     240
cagcaggctt taatagggca gcctgggttg gtggaggcaa gcaaagctaa ttggcatgcg     300
tgggaatcaa accccaggcc ctgggctcat tagcccatgg tcaaaacaac tgagccagag     360
gaggtaataa tttgcccaag aatatcagta gttcctttat tagaagaaaa tggctgatat     420
ggaagttggg gaatctgaat tgccagagaa tcttgggaag agtaataagc tcttagtctc     480
aacaaaaagt gttttttcat ctcagcgcgt aaagggtgct atatgggaac aaagaagtat     540
ttt                                                                    543


<210> 284
<211> 147
<212> DNA
<213> Homo sapien

<400> 284
aaactggtat tttatctttg attctccttc agccctcacc cctggttctc atctttcttg      60
atcaacatct tttcttgcct ctgtccccntt ctctcatctc ttagctcccc tccaacctgg     120
ggggcagtgg tgtggagaag ccacagg                                          147


<210> 285
<211> 316
<212> DNA
<213> Homo sapien

<400> 285
cggccgaggt ctggcttcac tcctactccc tctctgctcg cagcacgtcg gccgccagct      60
ctttgatgtg ttcccaggcc cgctgcacat gggcagattc caccgtgcga aacagatgg      120
caaagcgcag gacaaacttg tccctgaggt gacatggaac caagtggatt tttttggcac     180
tgtttattct ttgcagaaga gcttcattca ctttgttgga accctttagc cgaaagcaga     240
caagccccag aatgacttcc acacagattt caaagcgggg atcctggcgc accagtgact     300
caaactcatg ggacag                                                      316


<210> 286
<211> 322
<212> DNA
<213> Homo sapien

<400> 286
cctggggagc cctttagtgg ggtgggacct caggcagacc cccaaaccaa agggagccag      60
atgcccaagt tcaagtcatt agtgatatgt ggcagggctg acagagaaat aatcctggag     120
gtctccaaag ctgctgggaa tggaatggcg atgaaaagcg caggagtggg cagggtgtgg     180
tgggtgatgg tggcctcact cagagtggac caaggcccca gctccttgcc caaaaccaaa     240
gcccttgggc ccgaagtttt tagcataaca tcctttgcag taaatctcgc catccttgtc     300
tgccagggtg gttgactcaa gg                                               322


<210> 287
<211> 364
```

<212> DNA
<213> Homo sapien

<400> 287
ctgcccacgc tcaaaccaat tctggctgat atcgagtacc tgcaggacca gcacctcctg   60
ctcacagtca agtccatgga tggctatgaa tcctatgggg agtgtgtggt tgcactcaaa   120
tccatgatcg gcagcacggc ccaacagttc ctgaccttcc tatcccaccg tggcgaggag   180
acaggcaata tcagaggctc catgaaggtg cgggtgccca cggagcgcct gggcacccgt   240
gagcggctct acgagtggat cagcattgat aaggatgagg caggagcaaa gagcaaagcc   300
ccctctgtgt cccgagggag ccaggagccc aggtcaggga gccgcaagcc agccttcaca   360
gagg   364

<210> 288
<211> 261
<212> DNA
<213> Homo sapien

<400> 288
aaaattataa ctactcattc tttctttagc cttagttaat ttgagcagaa gccacaacaa   60
gcaaaccaca ataaatttag aattggcaga aatccacatt aactcctctt cccaagtttc   120
cacactacta ccatttacag ttgtaggttt gtaatgtata attatgtaat gcagaaacta   180
gctttgactt gtgtaacgat gcactgtcaa agtaagcaaa gtaagaattg aaattccaca   240
ttcccagaat ttaacactca g   261

<210> 289
<211> 261
<212> DNA
<213> Homo sapien

<400> 289
ctgagtgtta aattctggga atgtggaatt tcaattctta ctttgcttac tttgacagtg   60
catcgttaca caagtcaaag ctagtttctg cattacataa ttatacatta caaacctaca   120
actgtaaatg gtagtagtgt ggaaacttgg gaagaggagt taatgtggat ttctgccaat   180
tctaaattta ttgtggtttg cttgttgtgg cttctgctca aattaactaa ggctaaagaa   240
agaatgagta gttataattt t   261

<210> 290
<211> 92
<212> DNA
<213> Homo sapien

<400> 290
ccactacccg aacttacagg tgccaaaaga agaaagggta taaacggaga ccacctatca   60
ctcatcagaa cctaggatca tcacattcct tt   92

<210> 291
<211> 287
<212> DNA
<213> Homo sapien

<400> 291
ccatggctcc gctcagggcc ccggtcacct ccgagtcact ctgttccttg actgtctttg   60
tgtttctgta cctcaaggca ctgaagctgg aggactctgt ccatgcctgt gtcaccctcg   120
tgtgggagcc tctgggctcg gcaggtccac atttcatgag ctgaggcgtg ggccagggcc   180

```
atctggaaag ggaactcggc ttttccagaa cgtggtggat catctgtcgg gtgtgtggtg      240
aacacgttca gttcatcagg gcctacgctc cgggaagggg cccccag                    287
```

```
        <210> 292
        <211> 270
        <212> DNA
        <213> Homo sapien


        <400> 292
ccattgtttc ctcgctggcg aaggctcctt gaacatccct caccttcctc tcccgcctct       60
gccttctgct gggtcaaagg tggccttttc tctccagcct tgaattgttc cctgttggct      120
tcccaagggc ccatctgctg gtacagtcca cacttccaca gccaagaccc gagagggctt      180
tcactgcccc aagcctctct cctgtgaccc tgggattctg tcttggcaga atcctttgtc      240
agcggctctt actctgtcct tcctgtttgg                                       270
```

```
        <210> 293
        <211> 333
        <212> DNA
        <213> Homo sapien


        <400> 293
ccatgctcgt caacctggtg tccactgctt gctacgtctc cttcctcttc ctgggctgcg       60
acactggccc tgtggctggg gttactgttc cctatggaaa cagcacagca cctggctcag      120
ccctggaccc ctactcgccc tgcaataata actgtgaatg ccaaaccgat tccttcactc      180
cagtgtgtgg ggcagatggc atcacctacc tgtctgcctg ctttgctggc tgcaacagca      240
cgaatctcac gggctgtgcg tgcctcacca ccgtccctgc tgagaacgca accgtggttc      300
ctggaaaatg ccccagtcct gggtgccaag agg                                   333
```

```
        <210> 294
        <211> 123
        <212> DNA
        <213> Homo sapien


        <400> 294
ctgatacaaa tacagaaaac tctgcccatt atccaagaaa caaataatta agactaaaat       60
gcaagctgat gtgttgcagc attgtagggc cactaaatag ccatctgtga ttcgtggcaa      120
ttt                                                                    123
```

```
        <210> 295
        <211> 311
        <212> DNA
        <213> Homo sapien


        <400> 295
ctgcatacag acatttgttt aggtcatctg gattatcttg attgtcacca tggcaactat       60
ccacaaccag tgcctaggtg tgtgagaaga gtgatacaat aatactgtgg catggtcatt      120
tagctaatcc agtctaagcc taacagaaac cttttccatc aaagtttttc agagaataac      180
aacatctcat aagaggccag aggatggctt gtgcttaata tcacacctgt acagtagggc      240
agtgcttccc aggctgtctg cttacatttt agcttgtctt acggttacat atggttttag      300
tattttcatt t                                                           311
```

```
        <210> 296
        <211> 241
        <212> DNA
```

```
        <213> Homo sapien

        <400> 296
ctgcggaaga tctgcaacca cccctacatg ttccagcaca tcgaggagtc cttttccgag        60
cacttggggt tcactggcgg cattgtccaa gggctggacc tgtaccgagc ctcgggtaaa       120
tttgagcttc ttgatagaat tcttcccaaa ctccgagcaa ccaaccacaa agtgctgctg       180
ttctgccaaa tgacctccct catgaccatc atggaagatt actttgcgta tcgcggcttt       240
a                                                                        241

        <210> 297
        <211> 295
        <212> DNA
        <213> Homo sapien

        <400> 297
aaacacaaga tgaaaatact ctgttctgtc caaagcatca cctaatggtg tgaggcatct        60
cacttagctg tggagaagtc cttggaatta gatctcagaa agacagcttt aagacagtaa       120
aaccttttgg caatgggcta attgccttaa aagaagagtt ctacctgaaa gaccttgcag       180
gtggagaaat tgtcctacaa agattcttgg atatgttagt ggagataact gacatgggta       240
gctgtgggtc aaccaggaac tgtcaacaac ctgatctctg caaaaccagg atgga           295

        <210> 298
        <211> 347
        <212> DNA
        <213> Homo sapien

        <400> 298
ccaaaataaa gcttcaggca agaggcaaag atccagtgga atatgggaga atggtggagg        60
accaacacct gctaccccag agagcttttc taaaaaaagc aagaaagcag tcatgagtgg       120
tattcaccct gcagaagaca cggaaggtac tgagtttgag ccagagggac ttccagaagt       180
tgtaaagaaa gggtttgctg acatcccgac aggaaagact agcccatata tcctgcgaag       240
aacaaccatg gcaactcgga ccagcccccg cctggctgca cagaagttag cgctatcccc       300
actgagtctc ggcaaagaaa atcttgcaga gtcctccaaa ccaacag                    347

        <210> 299
        <211> 268
        <212> DNA
        <213> Homo sapien

        <400> 299
aaaaagtaaa catgaaaaca tcacgaattg taccatgatt caagaataac ttttgtaata        60
gaaaacacat gaccttttgc agtatagtgt gataccgaag taaaagtgaa agaaataaat       120
gcaggaaagt ttaagtggat gtaagttttt ataaggaaag taataagagg aggctgcttt       180
tgaaggtcct ttgatcttcc atgatgataa tatcgttgca aagttcttta acttgtattc       240
aagtaattag cagttgacca cttggttt                                          268

        <210> 300
        <211> 185
        <212> DNA
        <213> Homo sapien

        <400> 300
aaattggaga aggaagtttt cctgaagagc cagaatcctt gctaagtcat ttagatccaa        60
ctgaccatct ttatttctgt caaaaatctt catcatggtg ccggtgtatt cttccagttt       120
```

```
agcctcagaa atggcctttc tgtggtgaag aaagaggtct cggaggaagt tgcggagctc      180
agcag                                                                 185


        <210> 301
        <211> 75
        <212> DNA
        <213> Homo sapien


        <400> 301
aaaattggaa agtgggataa gaaatctaaa gtaaccagct tatctttgaa acaatattat       60
tttgaaattg gcttt                                                        75


        <210> 302
        <211> 247
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(247)
        <223> n = A,T,C or G


        <400> 302
ccatgttctc tgaattgggt gcagaagaca agggcagagt ggctgcggcc cctattacct       60
ttgtagcagc cacatcagaa agcagaagaa aacagtattt ctgaaggcat tgtttgaggt      120
tgatctcagc actgaacgat ttcaagccct acgcaccana acagaaggag ggtggaggaa      180
gtgatcanag ggaacgagct gtaggtttgc anaaatgtgt gaaaccaaaa tgatcactgc      240
ctacttg                                                               247


        <210> 303
        <211> 535
        <212> DNA
        <213> Homo sapien


        <400> 303
ctgcttcaga ggaaatcact gaaaaataaa gaaaaaccat ccatgcatgg ctgcatccag       60
tgtacctgta atcctgaaga aaaggtccta attccttcca tgctgaaatg ctagctttgg      120
tttcagagag agactttatt gcaactgtga ccaccgtcac tggtgagcac tgctgttcgg      180
cccccagcgg acttaaaaga ctggaatgtg gtagtggcgg tcgttctcgg tcagcaggga      240
gatctccggc cagtccctga gaggctcctc tgggtagcag acttcaaagt ctctggagtt      300
aaacttgaac agtctgaaca cttttatctt tacttcaagg gagtatccaa gtataaacat      360
atcaatctgc tctagtccac atgtgtcgcc tacagaattc aggtgattca tcatgaagct      420
caaaggatca gaggatgtct ccctggaaaa caggagtcta aaaagactgg gaatgacctt      480
tttagtcttc atttgttcat aaacttcagt gacttgatac agcatgatga acttt          535


        <210> 304
        <211> 522
        <212> DNA
        <213> Homo sapien


        <400> 304
ccgcgctcgg tctacaatca cgttttatta ttggctcgtc tagtcatggg atagagaagg       60
taaatagcaa aatagaaaga aaagggggaa aaggtagaag gcaagggaa aactattggt       120
tttagatctt tatcctggtc ctgtcaatga tcaggtaatt ggaaggatca aaattaggcc      180
```

```
aaacttggta attgggccaa aattgaacca aagtttgtgt caagaagacc tggggcagag      240
atatgtgact aaatcatttg gaatatgccc agaccccaag aatatttatg cccaacttga      300
atgctaacca gaagtccctt actgtagaag attgtaaggt tgctattttt ttgccccgac      360
accaaaatat tgatgtattt tccaacacca attctccaat tctctgacac caactcgatg      420
ttcaacaatt cagttatatt ctgtcactaa ttcctgcagc tatcagcagg ccccacaggt      480
aaaggattca gtctcacaag attgcccccc cacccacttc ag                        522
```

```
        <210> 305
        <211> 165
        <212> DNA
        <213> Homo sapien

        <400> 305
cctaaagcgc tcctcgctga agctcaaggg gtccacaatg atttgtttgt caaagttatt       60
gagtgcatat gccagttctc ctcctcctcc accctggtgc tgtgaggcat cgtctgaggc      120
agtggcctgg gctgcattgg aaatgcctgt gaccgcctgc tgcag                      165
```

```
        <210> 306
        <211> 294
        <212> DNA
        <213> Homo sapien

        <400> 306
ctgcacctaa gacatggccc tggctaggcg ggaacagctc acagtagcga tacattcaca       60
ggacacagtt ggtgtccaga aaaggggggct cagaacacag tttctacaca agcacttggc      120
acccacgca cagagacgtc actcaagcag cacagccaca aatagtttac agcagctcat      180
gcccggcatc cgcccatgct gggagactcc ctgaaaggtg ggcacctgcc gtctatgagg      240
aggtgtctcc ctccatcatt aaccccaaac cacacaatgt gtgaggagag cagg           294
```

```
        <210> 307
        <211> 181
        <212> DNA
        <213> Homo sapien

        <400> 307
aaaaatccat gacaccttga tagaaattag agtttacaca aacaaaaaag gaaccttcga       60
tattgccagc agctataaag tgaacgtact gagaccgaca ggacagcaag aaggcatttg      120
cacatttata tctgacaccc gaccatactt tcagtcacca gaatatcttc tctccagatt      180
t                                                                      181
```

```
        <210> 308
        <211> 179
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(179)
        <223> n = A,T,C or G

        <400> 308
aaggctgagg actgctggga gctcagatca gcccggagct actggctcat gggcagccaa       60
aaaatactgg atctgctgaa cgaaggctca gcccgagatc tccgcagtct tcagcgcatt      120
ggcccgaaga aggcccanct aatcgtgggc tggcgggagc tccacggccc cttcagcca      179
```

```
<210> 309
<211> 129
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(129)
<223> n = A,T,C or G

<400> 309
ctgcccgctt gcccgtagct gactcagntt cctcatcttc atctccatcc tcttcctcac        60
catcaccttc ttcttcctcc tcctcttcct ccccaccttc ttcctcttct tcgtctacct       120
cattgtcag                                                               129


<210> 310
<211> 390
<212> DNA
<213> Homo sapien

<400> 310
tgaggctggg ggagagccgt ggtccctgag gatgggtcag agctaaactc cttcctggcc        60
tgagagtcag ctctctgccc tgtgtacttc ccgggccagg gctgcccta atctctgtag        120
gaaccgtggt atgtctgcat gttgcccctt tctctttttcc cctttcctgt cccaccatac      180
gagcacctcc agcctgaaca gaagctctta ctctttccta tttcagtgtt acctgtgtgc       240
ttggtctgtt tgactttacg cccatctcag gacacttccg tagactgttt aggttcccct       300
gtcaaatatc agttacccac tcggtcccag ttttgttgcc ccagaaaggg atgttattat       360
ccttgggggc tcccagggca agggttaagg                                        390


<210> 311
<211> 355
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(355)
<223> n = A,T,C or G

<400> 311
cctctctgtg ctgctgaagg cagatcgctt gttccacacc agctaccact cccaggcagt        60
gcatatccgc ctgttgagaa atgccgtgtc tagattgtgg acaagagcct gcgtgattat       120
gctatangga naaaaattct tcgagttcca cccnanctcc tctaaacatt tggctcactc       180
aaaacaaaaa gncaccaatc ttantactgc tgaacttcat ttatgtnacc taacattaac      240
cntcgtagga aaaccaaata gccctctcgt ncangatatg ttgctaaagg actaccntgt       300
tcaacacaac ggctccggtg tgtgaactcc tgtttgggtg attcccctac tctca           355


<210> 312
<211> 498
<212> DNA
<213> Homo sapien

<400> 312
```

```
ccattctttt gaatctaatc tattatcaat agcatcctcc ataatatctt tgataaaagg        60
tgtccaccga gagagctgaa aagtttcttc tgcagaccga tcctttctta acggtttgcc       120
ttgttgagat tggggaacaa tgggaacacc aaggtaactc cagttacgaa tcatgtcact       180
ctcattttct atctttacat tctggatcaa cctgtccaaa ttttcttccg tagttccatt       240
aatactgaag atataaagta gaattgctct tattttatca caattatcat gatttttgtt       300
gagtagaact ggaaggagta ctcgcatgga atctttcacc ttctgtcctt ctgcatcagt       360
tccaagtgcc aggtcctgtt cagttttgca gagcttttct atattaagct tgaacttatt       420
catgcaatct tctgctaagt taagatggac aacttgctta gtaatctgtt ttcggaaata       480
gggcatcttt ttcatcag                                                     498


        <210> 313
        <211> 653
        <212> DNA
        <213> Homo sapien

        <400> 313
aaacttatca gattttttta agttaggtaa tttcaatcca cagtggctcc atatggttaa        60
aaaaacaaaa acaaaaacgc atttaaggat acacgaagca gtgaaaacaa agccccagta       120
ttttcgctaa agtactggaa atacctgttt ctaaaaacag ctttatattt gtccactgcc       180
tagaatagct ctcacccaaa cctcaaaaat aagagcagat agattttaga agcaagaaaa       240
ggtaaacagt gcccatatta tttgagactg gctctgctgc cctccctaag ccagtttaca       300
ttctttgaga ttcttggagt gggtgagtca gggctgaaga ctgcacaggc catgtcccct       360
gctccaacta ttcctcagaa cgtcccaggt ggagggagtg gcctgtcgat tttcactcat       420
tccatggagc tctgtgtaca tgaaaattcc tccaagtgtg gcttttgtcg aattcagaga       480
tacagcaagc cacgcataaa acatggagtg tagagcactg gtgtacctag cttagaaaca       540
ccctcggtga atgtggtact gtggctcgaa aggaagcaag ggacaggacc caggagactg       600
ggcggccagg ctctcggagt tccacacaca cctgtgaagc ccggccagca cag             653


        <210> 314
        <211> 513
        <212> DNA
        <213> Homo sapien

        <400> 314
ctggaagatt ttgctgcatt tggcattata ctgtaattta cagtatacaa catctgggga        60
ctcagtacta tcttagcaca gactaacttc tcccactccg tcagaggtgg caggtggcgg       120
gtcggtgggg agggcctttt ctccccataa atgcctgaac tttaatttat accatataag       180
aaatcagtga aggtaaaca acaaggttaa tgtaactcta ttataaattt tgcatttttt       240
ttctctgtga catatacaag tatattttg tttttggagc tataaattat ttaatttagc       300
aatcttcaaa gctcataaat ttcaactttt caaataagaa attttaactt caaataagaa       360
gtctaggact ttatggctat taattttact atcaaaatat ccaagggact ccattcaatg       420
taatagttat aattcttcta aatatcattt gaataattct ttgtggacgc tagactcaag       480
actatgctac atccaaacag tacatctata acc                                    513


        <210> 315
        <211> 222
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(222)
        <223> n = A,T,C or G
```

<400> 315

```
atttatattc aaggnatctc aaagaaagca ttttcatttc actgcacatc tagagaaaaa      60
caaaaataga aaattttcta gtccatccta atctgaatgg tgctgtttct atattggtca     120
ttgccttgca aacaggagct ccacaaaagc caggaagaga gactgcctcc ttggctgaaa     180
gagtcctttc aggaaggtgg actgcattgg tttgatatgt tt                        222
```

<210> 316
<211> 1633
<212> DNA
<213> Homo sapiens

<400> 316

```
cgtggaggca gctagcgcga ggctggggag cgctgagccg cgcgtcgtgc cctgcgctgc  60
ccagactagc gaacaataca gtcgggatgg ctaaaggtga ccccaagaaa ccaaagggca 120
agacgtccgc ttatgccttc tttgtgcaga catgcagaga agaacataag aagaaaaacc 180
cagaggtccc tgtcaatttt gcggaatttt ccaagaagtg ctctgagagg tggaagacgg 240
tgtccgggaa agagaaatcc aaatttgatg aaatggcaaa ggcagataaa gtgcgctatg 300
atcgggaaat gaaggattat ggaccagcta agggaggcaa gaagaagaag gatcctaatg 360
ctcccaaaag gccaccgtct ggattcttcc tgttctgttc agaattccgc cccaagatca 420
aatccacaaa ccccggcatc tctattggag acgtggcaaa aaagctgggt gagatgtgga 480
ataatttaaa tgacagtgaa aagcagcctt acatcactaa ggcggcaaag ctgaaggaga 540
agtatgagaa ggatgttgct gactataagt cgaaaggaaa gtttgatggt gcaaagggtc 600
ctgctaaagt tgcccggaaa aaggtggaag aggaagatga agaacaggag gaggaagaag 660
aggaggagga ggaggaggag gatgaataaa gaaactgttt atctgtctcc ttgtgaatac 720
ttagagtagg ggagcgccgt aattgacaca tctcttattt gagaagtgtc tgttgccctc 780
attaggttta attacaaaat ttgatcacga tcatattgta gtctctcaaa gtgctctaga 840
aattgtcagt ggtttacatg aagtggccat gggtgtctgg agcaccctga aactgtatca 900
aagttgtaca tatttccaaa cattttttaaa atgaaaaggc actctcgtgt tctcctcact 960
ctgtgcactt tgctgttggt gtgacaaggc atttaaagat gtttctggca ttttcttttt 1020
atttgtaagg tggtggtaac tatggttatt ggctagaaat cctgagtttt caactgtata 1080
tatctatagt ttgtaaaaag aacaaaacaa ccgagacaaa cccttgatgc tccttgctcg 1140
gcgttgaggc tgtggggaag atgccttttg ggagaggctg tagctcaggg cgtgcactgt 1200
gaggctggac ctgttgactc tgcaggggc atccatttag cttcaggttg tcttgtttct 1260
gtatatagtg acatagcatt ctgctgccat cttagctgtg gacaaagggg ggtcagctgg 1320
catgagaata ttttttttta agtgcggtag ttttttaaact gtttgtttttt aaacaaacta 1380
tagaactctt cattgtcagc aaagcaaaga gtcactgcat caatgaaagt tcaagaacct 1440
cctgtactta aacacgattc gcaacgttct gttatttttt ttgtatgttt agaatgctga 1500
aatgttttg aagttaaata aacagtatta cattttaga actcttctct actataacag 1560
tcaatttctg actcacagca gtgaacaaac ccccactccg ttgtatttgg agactggcct 1620
ccctataaat gtg                                                     1633
```

<210> 317
<211> 4235
<212> DNA
<213> Homo sapiens

<400> 317

```
gaatccaagg gggccagttc ctgccgtctg ctcttctgcc tcttgatctc cgccaccgtc  60
ttcaggccag gccttggatg gtatactgta aattcagcat atggagatac cattatcata 120
ccttgccgac ttgacgtacc tcagaatctc atgtttggca aatggaaata tgaaaagccc 180
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tggtcccgag ttccctggga ggctgacagg gtcaagccac cctgcccacc accctcccac 1320
ttcccctccc ctttcctctc cagcattagg attcaaggga aatctgcatg aagccaattt 1380
tgagggtaga cgtgtgggga aaataaatca ttatacagta agacctgggg cttgaggggt 1440
ggggaatggg gagggaaggg catagcctgc tcctccatga gtctgacatc tcggaaactg 1500
agcagctgcc ggacgcctgg gtcaggaatc caagacccca cctcttaagg actggttcct 1560
cagaaagcac cctcagggaa aaaggtgaaa acattacatc cgtggattct cctgccacaa 1620
ccgcattgga agaaaaggct gccgcaacat ctcagcgagg agtgaaggac ccatgtccca 1680
ggaaccgcgc tgcgccacct gcactcaccc ccctcacatt ctcttaagca cccggtggcc 1740
ctccgaggct ggcggaatgg tggtgcccac ggggttgggc aagggctcac caggacctca 1800
acgggcaaag ttgtgcacac taaaatatca aatcaaggtg cttggtttta aagtaaatgt 1860
ttttctaaag aaagctgtgt cttctgttg acccagacga atagggcaca gccctgtaac 1920
tgcacgtgcc ttctgtcatt gggaatgaaa taaattatta cgagaaaggg acttgtccta 1980
actggtttga ggccttacag ttttgtatct acatttttcc cctcctgggg tttgcgggga 2040
caggacagaa actacaggag tcatgggaaa gaaaattctg gcttcactac tgctcactgc 2100
tcactttctg atcactctga tactttttt tttttttttt ttttgcaacc tgataccttg 2160
aaaagcttct atgtgtctct ccttttgttg cctggcagct gtctaggatg atcactgatt 2220
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actatttact aagtagccac atgcaaataa aagttgtttg gtaaaatgga aaaaaaaaaa 2280

<210> 322
<211> 1398
<212> DNA
<213> Homo sapiens

<400> 322
tagatggcaa cctccctatc tgcccgcagg tcatagaggc gacacgtagc gtcatctgac 60
cctgaagcaa aggcatctcc actccaaagt tagacaaaat gccaggaatg ttcttctctg 120
ctaacccaaa ggaattgaaa ggaaccactc attcacttct agacgacaaa atgcaaaaaa 180
ggaggccaaa gacttttgga atggatatga aagcatacct gagatctatg atcccacatc 240
tggaatctgg aatgaaatct tccaagtcca aggatgtact ttctgctgct gaagtaatgc 300
aatggtctca atctctggaa aaacttcttg ccaaccaaac tggtcaaaat gtctttggaa 360
gtttcctaaa gtctgaattc agtgaggaga atattgagtt ctggctggct tgtgaagact 420
ataagaaaac agagtctgat cttttgccct gtaaagcaga agagatatat aaagcatttg 480
tgcattcaga tgctgctaaa caaatcaata ttgacttccg cactcgagaa tctacagcca 540
agaagattaa agcaccaacc cccacgtgtt ttgatgaagc acaaaaagtc atatatactc 600
ttatggaaaa ggactcttat cccaggttcc tcaaatcaga tatttactta aatcttctaa 660
atgacctgca ggctaatagc ctaaagtgac tggtccctgg ctgaagggaa ttaacagata 720
gtatcaaggc acgaaggaat gtgccagtat ggctccctgg gtgaacagct tggccttttt 780
tgggtgtctt gacaggccaa gaagaacaaa tgactcagaa tggattaaca tgaaagttat 840
ccaggcgcag agttgaagaa gcataagcaa gacaaaaaca gagagaccgc agaaggagga 900
agatactgtg gtactgtcat aaaaaacagt ggagctctgt attagaaagc ccctcagaac 960
tgggaaggcc aggtaactct agttacacag aaactgtgac taaagtctat gaaactgatt 1020
acaacaggct gtaagaatca aagtcaactg acatctatgc tacatattat tatatagttt 1080
gtactgagct attgaagtcc cattaactta aagtatatgt tttcaaattg ccattgctac 1140
tattgcttgt cggtgtattt tattttattg tttttgactt tggaagagat gaactgtgta 1200
tttaacttaa gctattgctc ttaaaaccag ggatcagaat atatttgtaa gttaaatcat 1260
tggtgctaat aataaatgtg gattttgtat taaaatatat agaagcaatt tctgtttaca 1320
tgtccttgct acttttaaaa acttgcattt attcctcaga ttttaaaaat aaataaataa 1380
ttcatttaaa aaaaaaaa   1398

<210> 323
<211> 1316
<212> DNA
<213> Homo sapiens

<400> 323
acttctacct gctcactcag aatcatttct gcaccaacca tggccacgtt tgtggagctc 60
agtaccaaag ccaagatgcc cattgtgggc ctgggcactt ggaagtctcc tcttggcaaa 120
gtgaaagaag cagtgaaggt ggccattgat gcaggatatc ggcacattga ctgtgcctat 180
gtctatcaga tgaacatga agtgggggaa gccatccaag agaagatcca agagaaggct 240
gtgaagcggg aggacctgtt catcgtcagc aagttgtggc ccactttctt tgagagaccc 300
cttgtgagga aagcctttga gaagacctc aaggacctga agctgagcta tctggacgtc 360
tatcttattc actggccaca gggattcaag tctggggatg acctttttcc caaagatgat 420
aaaggtaatg ccatcggtgg aaaagcaacg ttcttggatg cctgggaggc catggaggag 480
ctggtggatg aggggctggt gaaagccctt ggggtctcca atttcagcca cttccagatc 540
gagaagctct tgaacaaacc tggactgaaa tataaaccag tgactaacca ggttgagtgt 600
cacccatacc tcacacagga gaaactgatc cagtactgcc actccaaggg catcaccgtt 660
acggcctaca gccccctggg ctctccggat agaccttggg ccaagccaga agacccttcc 720
ctgctggagg atcccaagat taaggagatt gctgcaaagc acaaaaaaac cgcagcccag 780
gttctgatcc gtttccatat ccagaggaat gtgattgtca tccccaagtc tgtgacacca 840
gcacgcattg ttgagaacat tcaggtcttt gactttaaat tgagtgatga ggagatggca 900

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accatactca gcttcaacag aaactggagg gcctgtaacg tgttgcaatc ctctcatttg 960
gaagactatc ccttcaatgc agaatattga ggttgaatct cctggtgaga ttatacagga 1020
gattctcttt cttcgctgaa gtgtgactac ctccactcat gtcccatttt agccaagctt 1080
atttaagatc acagtgaact tagtcctgtt atagacgaga atcgaggtgc tgttttagac 1140
atttatttct gtatgttcaa ctaggatcag aatatcacag aaaagcatgg cttgaataag 1200
gaaatgacaa tttttttccac ttatctgatc agaacaaatg tttattaagc atcagaaact 1260
ctgccaacac tgaggatgta aagatcaata aaacaaataa taatcataaa aaaaaa      1316
```

<210> 324
<211> 200
<212> PRT
<213> Homo sapiens

<400> 324

```
Met Ala Lys Gly Asp Pro Lys Lys Pro Lys Gly Lys Thr Ser Ala Tyr
                  5                  10                  15

Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys Asn Pro
               20                  25                  30

Glu Val Pro Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu Arg
            35                  40                  45

Trp Lys Thr Val Ser Gly Lys Glu Lys Ser Lys Phe Asp Glu Met Ala
         50                  55                  60

Lys Ala Asp Lys Val Arg Tyr Asp Arg Glu Met Lys Asp Tyr Gly Pro
65                  70                  75                  80

Ala Lys Gly Gly Lys Lys Lys Lys Asp Pro Asn Ala Pro Lys Arg Pro
                  85                  90                  95

Pro Ser Gly Phe Phe Leu Phe Cys Ser Glu Phe Arg Pro Lys Ile Lys
               100                 105                 110

Ser Thr Asn Pro Gly Ile Ser Ile Gly Asp Val Ala Lys Lys Leu Gly
            115                 120                 125

Glu Met Trp Asn Asn Leu Asn Asp Ser Glu Lys Gln Pro Tyr Ile Thr
         130                 135                 140

Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Val Ala Asp Tyr
145                 150                 155                 160

Lys Ser Lys Gly Lys Phe Asp Gly Ala Lys Gly Pro Ala Lys Val Ala
                 165                 170                 175

Arg Lys Lys Val Glu Glu Glu Asp Glu Glu Gln Glu Glu Glu Glu Glu
               180                 185                 190

Glu Glu Glu Glu Glu Glu Asp Glu
            195                 200
```

<210> 325
<211> 263
<212> PRT
<213> Homo sapiens

<400> 325

```
Met Phe Arg Asn Gln Tyr Asp Asn Asp Val Thr Val Trp Ser Pro Gln
                  5                  10                  15

Gly Arg Ile His Gln Ile Glu Tyr Ala Met Glu Ala Val Lys Gln Gly
             20                  25                  30

Ser Ala Thr Val Gly Leu Lys Ser Lys Thr His Ala Val Leu Val Ala
         35                  40                  45

Leu Lys Arg Ala Gln Ser Glu Leu Ala Ala His Gln Lys Lys Ile Leu
     50                  55                  60

His Val Asp Asn His Ile Gly Ile Ser Ile Ala Gly Leu Thr Ala Asp
65                  70                  75                  80

Ala Arg Leu Leu Cys Asn Phe Met Arg Gln Glu Cys Leu Asp Ser Arg
                 85                  90                  95

Phe Val Phe Asp Arg Pro Leu Pro Val Ser Arg Leu Val Ser Leu Ile
             100                 105                 110

Gly Ser Lys Thr Gln Ile Pro Thr Gln Arg Tyr Gly Arg Arg Pro Tyr
             115                 120                 125

Gly Val Gly Leu Leu Ile Ala Gly Tyr Asp Asp Met Gly Pro His Ile
     130                 135                 140

Phe Gln Thr Cys Pro Ser Ala Asn Tyr Phe Asp Cys Arg Ala Met Ser
145                 150                 155                 160

Ile Gly Ala Arg Ser Gln Ser Ala Arg Thr Tyr Leu Glu Arg His Met
                 165                 170                 175

Ser Glu Phe Met Glu Cys Asn Leu Asn Glu Leu Val Lys His Gly Leu
             180                 185                 190

Arg Ala Leu Arg Glu Thr Leu Pro Ala Glu Gln Asp Leu Thr Thr Lys
     195                 200                 205

Asn Val Ser Ile Gly Ile Val Gly Lys Asp Leu Glu Phe Thr Ile Tyr
     210                 215                 220

Asp Asp Asp Asp Val Ser Pro Phe Leu Glu Gly Leu Glu Glu Arg Pro
225                 230                 235                 240

Gln Arg Lys Ala Gln Pro Ala Gln Pro Ala Asp Glu Pro Ala Glu Lys
             245                 250                 255
```

Ala Asp Glu Pro Met Glu His
          260

<210> 326
<211> 539
<212> PRT
<213> Homo sapiens

<400> 326
Met Pro Glu Asn Val Ala Pro Arg Ser Gly Ala Thr Ala Gly Ala Ala
                  5   10   15

Gly Gly Arg Gly Lys Gly Ala Tyr Gln Asp Arg Asp Lys Pro Ala Gln
              20   25   30

Ile Arg Phe Ser Asn Ile Ser Ala Ala Lys Ala Val Ala Asp Ala Ile
          35   40   45

Arg Thr Ser Leu Gly Pro Lys Gly Met Asp Lys Met Ile Gln Asp Gly
      50   55   60

Lys Gly Asp Val Thr Ile Thr Asn Asp Gly Ala Thr Ile Leu Lys Gln
65   70   75   80

Met Gln Val Leu His Pro Ala Ala Arg Met Leu Val Glu Leu Ser Lys
                  85   90   95

Ala Gln Asp Ile Glu Ala Gly Asp Gly Thr Thr Ser Val Val Ile Ile
              100   105   110

Ala Gly Ser Leu Leu Asp Ser Cys Thr Lys Leu Leu Gln Lys Gly Ile
          115   120   125

His Pro Thr Ile Ile Ser Glu Ser Phe Gln Lys Ala Leu Glu Lys Gly
      130   135   140

Ile Glu Ile Leu Thr Asp Met Ser Arg Pro Val Glu Leu Ser Asp Arg
145   150   155   160

Glu Thr Leu Leu Asn Ser Ala Thr Thr Ser Leu Asn Ser Lys Val Val
                  165   170   175

Ser Gln Tyr Ser Ser Leu Leu Ser Pro Met Ser Val Asn Ala Val Met
              180   185   190

Lys Val Ile Asp Pro Ala Thr Ala Thr Ser Val Asp Leu Arg Asp Ile
          195   200   205

Lys Ile Val Lys Lys Leu Gly Gly Thr Ile Asp Asp Cys Glu Leu Val
      210   215   220

Glu Gly Leu Val Leu Thr Gln Lys Val Ser Asn Ser Gly Ile Thr Arg
225   230   235   240

Val Glu Lys Ala Lys Ile Gly Leu Ile Gln Phe Cys Leu Ser Ala Pro
                  245   250   255

Lys Thr Asp Met Asp Asn Gln Ile Val Val Ser Asp Tyr Ala Gln Met
              260   265   270

Asp Arg Val Leu Arg Glu Glu Arg Ala Tyr Ile Leu Asn Leu Val Lys
          275   280   285

Gln Ile Lys Lys Thr Gly Cys Asn Val Leu Leu Ile Gln Lys Ser Ile
    290   295   300

Leu Arg Asp Ala Leu Ser Asp Leu Ala Leu His Phe Leu Asn Lys Met
305   310   315   320

Lys Ile Met Val Ile Lys Asp Ile Glu Arg Glu Asp Ile Glu Phe Ile
              325   330   335

Cys Lys Thr Ile Gly Thr Lys Pro Val Ala His Ile Asp Gln Phe Thr
          340   345   350

Ala Asp Met Leu Gly Ser Ala Glu Leu Ala Glu Glu Val Asn Leu Asn
          355   360   365

Gly Ser Gly Lys Leu Leu Lys Ile Thr Gly Cys Ala Ser Pro Gly Lys
    370   375   380

Thr Val Thr Ile Val Val Arg Gly Ser Asn Lys Leu Val Ile Glu Glu
385   390   395   400

Ala Glu Arg Ser Ile His Asp Ala Leu Cys Val Ile Arg Cys Leu Val
              405   410   415

Lys Lys Arg Ala Leu Ile Ala Gly Gly Gly Ala Pro Glu Ile Glu Leu
          420   425   430

Ala Leu Arg Leu Thr Glu Tyr Ser Arg Thr Leu Ser Gly Met Glu Ser
          435   440   445

Tyr Cys Val Arg Ala Phe Ala Asp Ala Met Glu Val Ile Pro Ser Thr
    450   455   460

Leu Ala Glu Asn Ala Gly Leu Asn Pro Ile Ser Thr Val Thr Glu Leu
465   470   475   480

Arg Asn Arg His Ala Gln Gly Glu Lys Thr Ala Gly Ile Asn Val Arg
              485   490   495

Lys Gly Gly Ile Ser Asn Ile Leu Glu Glu Leu Val Val Gln Pro Leu
          500   505   510

Leu Val Ser Val Ser Ala Leu Thr Leu Ala Thr Glu Thr Val Arg Ser
          515   520   525

Ile Leu Lys Ile Asp Asp Val Val Asn Thr Arg
    530   535

<210> 327
<211> 144
<212> PRT
<213> Homo sapiens

<400> 327
Met Ala Phe Thr Phe Ala Ala Phe Cys Tyr Met Leu Ala Leu Leu Leu
              5   10   15

Thr Ala Ala Leu Ile Phe Phe Ala Ile Trp His Ile Ile Ala Phe Asp
          20   25   30

Glu Leu Lys Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys Asn Thr Leu
          35   40   45

Asn Pro Leu Val Leu Pro Glu Tyr Leu Ile His Ala Phe Phe Cys Val
         50   55   60

Met Phe Leu Cys Ala Ala Glu Trp Leu Thr Leu Gly Leu Asn Met Pro
65   70   75   80

Leu Leu Ala Tyr His Ile Trp Arg Tyr Met Ser Arg Pro Val Met Ser
             85   90   95

Gly Pro Gly Leu Tyr Asp Pro Thr Thr Ile Met Asn Ala Asp Ile Leu
          100   105   110

Ala Tyr Cys Gln Lys Glu Gly Trp Cys Lys Leu Ala Phe Tyr Leu Leu
         115   120   125

Ala Phe Phe Tyr Tyr Leu Tyr Gly Met Ile Tyr Val Leu Val Ser Ser
         130   135   140

<210> 328
<211> 138
<212> PRT
<213> Homo sapiens

<400> 328
Met Pro Asn Phe Ser Gly Asn Trp Lys Ile Ile Arg Ser Glu Asn Phe
              5   10   15

Glu Glu Leu Leu Lys Val Leu Gly Val Asn Val Met Leu Arg Lys Ile
          20   25   30

Ala Val Ala Ala Ala Ser Lys Pro Ala Val Glu Ile Lys Gln Glu Gly
          35   40   45

Asp Thr Phe Tyr Ile Lys Thr Ser Thr Thr Val Arg Thr Thr Glu Ile
    50   55   60

Asn Phe Lys Val Gly Glu Glu Phe Glu Glu Gln Thr Val Asp Gly Arg
65   70   75   80

Pro Cys Lys Ser Leu Val Lys Trp Glu Ser Glu Asn Lys Met Val Cys
             85   90   95

Glu Gln Lys Leu Leu Lys Gly Glu Gly Pro Lys Thr Ser Trp Thr Arg
        100   105   110

Glu Leu Thr Asn Asp Gly Glu Leu Ile Leu Thr Met Thr Ala Asp Asp
      115   120   125

Val Val Cys Thr Arg Val Tyr Val Arg Glu
    130   135

<210> 329
<211> 346
<212> PRT
<213> Homo sapiens

<400> 329
Met Phe Leu Ser Ile Leu Val Ala Leu Cys Leu Trp Leu His Leu Ala
             5   10   15

Leu Gly Val Arg Gly Ala Pro Cys Glu Ala Val Arg Ile Pro Met Cys
         20   25   30

Arg His Met Pro Trp Asn Ile Thr Arg Met Pro Asn His Leu His His
        35   40   45

Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Glu Gln Tyr Glu Glu Leu
    50   55   60

Val Asp Val Asn Cys Ser Ala Val Leu Arg Phe Phe Phe Cys Ala Met
65   70   75   80

Tyr Ala Pro Ile Cys Thr Leu Glu Phe Leu His Asp Pro Ile Lys Pro
             85   90   95

Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
        100   105   110

Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
      115   120   125

Pro Val Tyr Asp Arg Gly Val Cys Ile Ser Pro Glu Ala Ile Val Thr
    130   135   140

Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
145   150   155   160

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Val Gln Glu Arg Pro Leu Asp Val Asp Cys Lys Arg Leu Ser Pro Asp
            165                 170             175

Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser
            180             185             190

Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
        195             200             205

Ser Gly Cys Asn Glu Val Thr Thr Val Val Asp Val Lys Glu Ile Phe
    210             215             220

Lys Ser Ser Ser Pro Ile Pro Arg Thr Gln Val Pro Leu Ile Thr Asn
225             230             235             240

Ser Ser Cys Gln Cys Pro His Ile Leu Pro His Gln Asp Val Leu Ile
            245             250             255

Met Cys Tyr Glu Trp Arg Ser Arg Met Met Leu Leu Glu Asn Cys Leu
            260             265             270

Val Glu Lys Trp Arg Asp Gln Leu Ser Lys Arg Ser Ile Gln Trp Glu
        275             280             285

Glu Arg Leu Gln Glu Gln Arg Arg Thr Val Gln Asp Lys Lys Lys Thr
    290             295             300

Ala Gly Arg Thr Ser Arg Ser Asn Pro Pro Lys Pro Lys Gly Lys Pro
305             310             315             320

Pro Ala Pro Lys Pro Ala Ser Pro Lys Lys Asn Ile Lys Thr Arg Ser
            325             330             335

Ala Gln Lys Arg Thr Asn Pro Lys Arg Val
            340             345
```

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<210> 330
<211> 826
<212> PRT
<213> Homo sapiens
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```
<400> 330
Met Glu Gly Ala Gly Gly Ala Asn Asp Lys Lys Lys Ile Ser Ser Glu
                5               10              15

Arg Arg Lys Glu Lys Ser Arg Asp Ala Ala Arg Ser Arg Arg Ser Lys
            20              25              30

Glu Ser Glu Val Phe Tyr Glu Leu Ala His Gln Leu Pro Leu Pro His
        35              40              45

Asn Val Ser Ser His Leu Asp Lys Ala Ser Val Met Arg Leu Thr Ile
```

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       50                      55                      60
Ser Tyr Leu Arg Val Arg Lys Leu Leu Asp Ala Gly Asp Leu Asp Ile
65                  70                  75                  80

Glu Asp Asp Met Lys Ala Gln Met Asn Cys Phe Tyr Leu Lys Ala Leu
                85                  90                  95

Asp Gly Phe Val Met Val Leu Thr Asp Asp Gly Asp Met Ile Tyr Ile
            100                 105                 110

Ser Asp Asn Val Asn Lys Tyr Met Gly Leu Thr Gln Phe Glu Leu Thr
            115                 120                 125

Gly His Ser Val Phe Asp Phe Thr His Pro Cys Asp His Glu Glu Met
    130                 135                 140

Arg Glu Met Leu Thr His Arg Asn Gly Leu Val Lys Lys Gly Lys Glu
145                 150                 155                 160

Gln Asn Thr Gln Arg Ser Phe Phe Leu Arg Met Lys Cys Thr Leu Thr
                165                 170                 175

Ser Arg Gly Arg Thr Met Asn Ile Lys Ser Ala Thr Trp Lys Val Leu
            180                 185                 190

His Cys Thr Gly His Ile His Val Tyr Asp Thr Asn Ser Asn Gln Pro
        195                 200                 205

Gln Cys Gly Tyr Lys Lys Pro Pro Met Thr Cys Leu Val Leu Ile Cys
    210                 215                 220

Glu Pro Ile Pro His Pro Ser Asn Ile Glu Ile Pro Leu Asp Ser Lys
225                 230                 235                 240

Thr Phe Leu Ser Arg His Ser Leu Asp Met Lys Phe Ser Tyr Cys Asp
                245                 250                 255

Glu Arg Ile Thr Glu Leu Met Gly Tyr Glu Pro Glu Glu Leu Leu Gly
            260                 265                 270

Arg Ser Ile Tyr Glu Tyr Tyr His Ala Leu Asp Ser Asp His Leu Thr
        275                 280                 285

Lys Thr His His Asp Met Phe Thr Lys Gly Gln Val Thr Thr Gly Gln
    290                 295                 300

Tyr Arg Met Leu Ala Lys Arg Gly Gly Tyr Val Trp Val Glu Thr Gln
305                 310                 315                 320

Ala Thr Val Ile Tyr Asn Thr Lys Asn Ser Gln Pro Gln Cys Ile Val
            325                 330                 335

Cys Val Asn Tyr Val Val Ser Gly Ile Ile Gln His Asp Leu Ile Phe
```

```
                340                    345                    350

Ser Leu Gln Gln Thr Glu Cys Val Leu Lys Pro Val Glu Ser Ser Asp
        355                 360                 365

Met Lys Met Thr Gln Leu Phe Thr Lys Val Glu Ser Glu Asp Thr Ser
    370                 375                 380

Ser Leu Phe Asp Lys Leu Lys Lys Glu Pro Asp Ala Leu Thr Leu Leu
385                 390                 395                 400

Ala Pro Ala Ala Gly Asp Thr Ile Ile Ser Leu Asp Phe Gly Ser Asn
                405                 410                 415

Asp Thr Glu Thr Asp Asp Gln Gln Leu Glu Glu Val Pro Leu Tyr Asn
                420                 425                 430

Asp Val Met Leu Pro Ser Pro Asn Glu Lys Leu Gln Asn Ile Asn Leu
        435                 440                 445

Ala Met Ser Pro Leu Pro Thr Ala Glu Thr Pro Lys Pro Leu Arg Ser
    450                 455                 460

Ser Ala Asp Pro Ala Leu Asn Gln Glu Val Ala Leu Lys Leu Glu Pro
465                 470                 475                 480

Asn Pro Glu Ser Leu Glu Leu Ser Phe Thr Met Pro Gln Ile Gln Asp
                485                 490                 495

Gln Thr Pro Ser Pro Ser Asp Gly Ser Thr Arg Gln Ser Ser Pro Glu
                500                 505                 510

Pro Asn Ser Pro Ser Glu Tyr Cys Phe Tyr Val Asp Ser Asp Met Val
                515                 520                 525

Asn Glu Phe Lys Leu Glu Leu Val Glu Lys Leu Phe Ala Glu Asp Thr
    530                 535                 540

Glu Ala Lys Asn Pro Phe Ser Thr Gln Asp Thr Asp Leu Asp Leu Glu
545                 550                 555                 560

Met Leu Ala Pro Tyr Ile Pro Met Asp Asp Asp Phe Gln Leu Arg Ser
                565                 570                 575

Phe Asp Gln Leu Ser Pro Leu Glu Ser Ser Ser Ala Ser Pro Glu Ser
                580                 585                 590

Ala Ser Pro Gln Ser Thr Val Thr Val Phe Gln Gln Thr Gln Ile Gln
        595                 600                 605

Glu Pro Thr Ala Asn Ala Thr Thr Thr Thr Ala Thr Thr Asp Glu Leu
    610                 615                 620

Lys Thr Val Thr Lys Asp Arg Met Glu Asp Ile Lys Ile Leu Ile Ala
```

```
      625                       630                      635                        640
Ser Pro Ser Pro Thr His Ile His Lys Glu Thr Thr Ser Ala Thr Ser
                645                     650                     655

Ser Pro Tyr Arg Asp Thr Gln Ser Arg Thr Ala Ser Pro Asn Arg Ala
                660                     665                     670

Gly Lys Gly Val Ile Glu Gln Thr Glu Lys Ser His Pro Arg Ser Pro
            675                     680                     685

Asn Val Leu Ser Val Ala Leu Ser Gln Arg Thr Thr Val Pro Glu Glu
        690                     695                     700

Glu Leu Asn Pro Lys Ile Leu Ala Leu Gln Asn Ala Gln Arg Lys Arg
705                     710                     715                     720

Lys Met Glu His Asp Gly Ser Leu Phe Gln Ala Val Gly Ile Gly Thr
                725                     730                     735

Leu Leu Gln Gln Pro Asp Asp His Ala Ala Thr Thr Ser Leu Ser Trp
            740                     745                     750

Lys Arg Val Lys Gly Cys Lys Ser Ser Glu Gln Asn Gly Met Glu Gln
            755                     760                     765

Lys Thr Ile Ile Leu Ile Pro Ser Asp Leu Ala Cys Arg Leu Leu Gly
        770                     775                     780

Gln Ser Met Asp Glu Ser Gly Leu Pro Gln Leu Thr Ser Tyr Asp Cys
785                     790                     795                     800

Glu Val Asn Ala Pro Ile Gln Gly Ser Arg Asn Leu Leu Gln Gly Glu
                805                     810                     815

Glu Leu Leu Arg Ala Leu Asp Gln Val Asn
            820                     825


<210> 331
<211> 92
<212> PRT
<213> Homo sapiens

<400> 331
Met Ala Tyr Arg Gly Gln Gly Gln Lys Val Gln Lys Val Met Val Gln
                5                      10                      15

Pro Ile Asn Leu Ile Phe Arg Tyr Leu Gln Asn Arg Ser Arg Ile Gln
            20                      25                      30

Val Trp Leu Tyr Glu Gln Val Asn Met Arg Ile Glu Gly Cys Ile Ile
        35                      40                      45
```

Gly Phe Asp Glu Tyr Met Asn Leu Val Leu Asp Asp Ala Glu Glu Ile
   50   55   60

His Ser Lys Thr Lys Ser Arg Lys Gln Leu Gly Arg Ile Met Leu Lys
 65   70   75   80

Gly Asp Asn Ile Thr Leu Leu Gln Ser Val Ser Asn
             85   90

<210> 332
<211> 235
<212> PRT
<213> Homo sapiens

<400> 332
Met Asp Pro Ala Arg Pro Leu Gly Leu Ser Ile Leu Leu Leu Phe Leu
          5   10   15

Thr Glu Ala Ala Leu Gly Asp Ala Ala Gln Glu Pro Thr Gly Asn Asn
         20   25   30

Ala Glu Ile Cys Leu Leu Pro Leu Asp Tyr Gly Pro Cys Arg Ala Leu
        35   40   45

Leu Leu Arg Tyr Tyr Tyr Asp Arg Tyr Thr Gln Ser Cys Arg Gln Phe
   50   55   60

Leu Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Tyr Thr Trp Glu
 65   70   75   80

Ala Cys Asp Asp Ala Cys Trp Arg Ile Glu Lys Val Pro Lys Val Cys
         85   90   95

Arg Leu Gln Val Ser Val Asp Asp Gln Cys Glu Gly Ser Thr Glu Lys
        100   105   110

Tyr Phe Phe Asn Leu Ser Ser Met Thr Cys Glu Lys Phe Phe Ser Gly
      115   120   125

Gly Cys His Arg Asn Arg Ile Glu Asn Arg Phe Pro Asp Glu Ala Thr
     130   135   140
Cys Met Gly Phe Cys Ala Pro Lys Lys Ile Pro Ser Phe Cys Tyr Ser
145   150   155   160

Pro Lys Asp Glu Gly Leu Cys Ser Ala Asn Val Thr Arg Tyr Tyr Phe
         165   170   175

Asn Pro Arg Tyr Arg Thr Cys Asp Ala Phe Thr Tyr Thr Gly Cys Gly
        180   185   190

Gly Asn Asp Asn Asn Phe Val Ser Arg Glu Asp Cys Lys Arg Ala Cys
      195   200   205

```
Ala Lys Ala Leu Lys Lys Lys Lys Lys Met Pro Lys Leu Arg Phe Ala
    210                 215             220

Ser Arg Ile Arg Lys Ile Arg Lys Lys Gln Phe
225                 230             235
```

<210> 333
<211> 291
<212> PRT
<213> Homo sapiens

<400> 333
```
Met Gln Arg Ala Arg Pro Thr Leu Trp Ala Ala Ala Leu Thr Leu Leu
                5                 10                15

Val Leu Leu Arg Gly Pro Pro Val Ala Arg Ala Gly Ala Ser Ser Gly
            20                25                30

Gly Leu Gly Pro Val Val Arg Cys Glu Pro Cys Asp Ala Arg Ala Leu
        35                40                45

Ala Gln Cys Ala Pro Pro Pro Ala Val Cys Ala Glu Leu Val Arg Glu
    50                55                60

Pro Gly Cys Gly Cys Cys Leu Thr Cys Ala Leu Ser Glu Gly Gln Pro
65                70                75                80

Cys Gly Ile Tyr Thr Glu Arg Cys Gly Ser Gly Leu Arg Cys Gln Pro
            85                90                95

Ser Pro Asp Glu Ala Arg Pro Leu Gln Ala Leu Leu Asp Gly Arg Gly
            100               105               110

Leu Cys Val Asn Ala Ser Ala Val Ser Arg Leu Arg Ala Tyr Leu Leu
        115               120               125

Pro Ala Pro Pro Ala Pro Gly Asn Ala Ser Glu Ser Glu Glu Asp Arg
    130               135               140

Ser Ala Gly Ser Val Glu Ser Pro Ser Val Ser Ser Thr His Arg Val
145               150               155               160

Ser Asp Pro Lys Phe His Pro Leu His Ser Lys Ile Ile Ile Ile Lys
            165               170               175

Lys Gly His Ala Lys Asp Ser Gln Arg Tyr Lys Val Asp Tyr Glu Ser
            180               185               190

Gln Ser Thr Asp Thr Gln Asn Phe Ser Ser Glu Ser Lys Arg Glu Thr
        195               200               205

Glu Tyr Gly Pro Cys Arg Arg Glu Met Glu Asp Thr Leu Asn His Leu
    210               215               220
```

Lys Phe Leu Asn Val Leu Ser Pro Arg Gly Val His Ile Pro Asn Cys
225   230   235   240

Asp Lys Lys Gly Phe Tyr Lys Lys Lys Gln Cys Arg Pro Ser Lys Gly
                245   250   255

Arg Lys Arg Gly Phe Cys Trp Cys Val Asp Lys Tyr Gly Gln Pro Leu
            260   265   270

Pro Gly Tyr Thr Thr Lys Gly Lys Glu Asp Val His Cys Tyr Ser Met
        275   280   285

Gln Ser Lys
    290

<210> 334
<211> 582
<212> PRT
<213> Homo sapiens

<400> 334
Glu Ser Lys Gly Ala Ser Ser Cys Arg Leu Leu Phe Cys Leu Leu Ile
                5   10   15

Ser Ala Thr Val Phe Arg Pro Gly Leu Gly Trp Tyr Thr Val Asn Ser
            20   25   30

Ala Tyr Gly Asp Thr Ile Ile Ile Pro Cys Arg Leu Asp Val Pro Gln
        35   40   45

Asn Leu Met Phe Gly Lys Trp Lys Tyr Glu Lys Pro Asp Gly Ser Pro
    50   55   60

Val Phe Ile Ala Phe Arg Ser Ser Thr Lys Lys Ser Val Gln Tyr Asp
65   70   75   80

Asp Val Pro Glu Tyr Lys Asp Arg Leu Asn Leu Ser Glu Asn Tyr Thr
                85   90   95

Leu Ser Ile Ser Asn Ala Arg Ile Ser Asp Glu Lys Arg Phe Val Cys
            100   105   110

Met Leu Val Thr Glu Asp Asn Val Phe Glu Ala Pro Thr Ile Val Lys
            115   120   125

Val Phe Lys Gln Pro Ser Lys Pro Glu Ile Val Ser Lys Ala Leu Phe
        130   135   140

Leu Glu Thr Glu Gln Leu Lys Lys Leu Gly Asp Cys Ile Ser Glu Asp
145   150   155   160

Ser Tyr Pro Asp Gly Asn Ile Thr Trp Tyr Arg Asn Gly Lys Val Leu

                    165   170   175

His Pro Leu Glu Gly Ala Val Val Ile Ile Phe Lys Lys Glu Met Asp
            180   185   190

Pro Val Thr Gln Leu Tyr Thr Met Thr Ser Thr Leu Glu Tyr Lys Thr
            195   200   205

Thr Lys Ala Asp Ile Gln Met Pro Phe Thr Cys Ser Val Thr Tyr Tyr
        210   215   220

Gly Pro Ser Gly Gln Lys Thr Ile His Ser Glu Gln Ala Val Phe Asp
225   230   235   240

Ile Tyr Tyr Pro Thr Glu Gln Val Thr Ile Gln Val Leu Pro Pro Lys
                245   250   255

Asn Ala Ile Lys Glu Gly Asp Asn Ile Thr Leu Lys Cys Leu Gly Asn
            260   265   270

Gly Asn Pro Pro Pro Glu Glu Phe Leu Phe Tyr Leu Pro Gly Gln Pro
            275   280   285

Glu Gly Ile Arg Ser Ser Asn Thr Tyr Thr Leu Thr Asp Val Arg Arg
    290   295   300

Asn Ala Thr Gly Asp Tyr Lys Cys Ser Leu Ile Asp Lys Lys Ser Met
305   310   315   320

Ile Ala Ser Thr Ala Ile Thr Val His Tyr Leu Asp Leu Ser Leu Asn
                325   330   335

Pro Ser Gly Glu Val Thr Arg Gln Ile Gly Asp Ala Leu Pro Val Ser
            340   345   350

Cys Thr Ile Ser Ala Ser Arg Asn Ala Thr Val Val Trp Met Lys Asp
        355   360   365

Asn Ile Arg Leu Arg Ser Ser Pro Ser Phe Ser Ser Leu His Tyr Gln
    370   375   380

Asp Ala Gly Asn Tyr Val Cys Glu Thr Ala Leu Gln Glu Val Glu Gly
385   390   395   400

Leu Lys Lys Arg Glu Ser Leu Thr Leu Ile Val Glu Gly Lys Pro Gln
            405   410   415

Ile Lys Met Thr Lys Lys Thr Asp Pro Ser Gly Leu Ser Lys Thr Ile
        420   425   430

Ile Cys His Val Glu Gly Phe Pro Lys Pro Ala Ile Gln Trp Thr Ile
        435   440   445

Thr Gly Ser Gly Ser Val Ile Asn Gln Thr Glu Glu Ser Pro Tyr Ile

```
          450                    455                    460

Asn Gly Arg Tyr Tyr Ser Lys Ile Ile Ile Ser Pro Glu Glu Asn Val
465                     470                475                480

Thr Leu Thr Cys Thr Ala Glu Asn Gln Leu Glu Arg Thr Val Asn Ser
                485                     490                495

Leu Asn Val Ser Ala Ile Ser Ile Pro Glu His Asp Glu Ala Asp Glu
                500                     505                510

Ile Ser Asp Glu Asn Arg Glu Lys Val Asn Asp Gln Ala Lys Leu Ile
                515                     520                525

Val Gly Ile Val Val Gly Leu Leu Leu Ala Ala Leu Val Ala Gly Val
        530                     535                540

Val Tyr Trp Leu Tyr Met Lys Lys Ser Lys Thr Ala Ser Lys His Val
545                     550                555                560

Asn Lys Asp Leu Gly Asn Met Glu Glu Asn Lys Lys Leu Glu Glu Asn
                565                     570                575

Asn His Lys Thr Glu Ala
                580
```

<210> 335
<211> 709
<212> PRT
<213> Homo sapiens

<400> 335
```
Met Ala Glu Val Glu Asp Gln Ala Ala Arg Asp Met Lys Arg Leu Glu
                5                   10                  15

Glu Lys Asp Lys Glu Arg Lys Asn Val Lys Gly Ile Arg Asp Asp Ile
                20                  25                  30

Glu Glu Glu Asp Asp Gln Glu Ala Tyr Phe Arg Tyr Met Ala Glu Asn
        35                  40                  45

Pro Thr Ala Gly Val Val Gln Glu Glu Glu Glu Asp Asn Leu Glu Tyr
        50                  55                  60

Asp Ser Asp Gly Asn Pro Ile Ala Pro Thr Lys Lys Ile Ile Asp Pro
65                  70                  75                  80

Leu Pro Pro Ile Asp His Ser Glu Ile Asp Tyr Pro Pro Phe Glu Lys
                85                  90                  95

Asn Phe Tyr Asn Glu His Glu Glu Ile Thr Asn Leu Thr Pro Gln Gln
                100                 105                 110
```

Leu Ile Asp Leu Arg His Lys Leu Asn Leu Arg Val Ser Gly Ala Ala
    115   120   125

Pro Pro Arg Pro Gly Ser Ser Phe Ala His Phe Gly Phe Asp Glu Gln
 130   135   140

Leu Met His Gln Ile Arg Lys Ser Glu Tyr Thr Gln Pro Thr Pro Ile
145   150   155   160

Gln Cys Gln Gly Val Pro Val Ala Leu Ser Gly Arg Asp Met Ile Gly
        165   170   175

Ile Ala Lys Thr Gly Ser Gly Lys Thr Ala Ala Phe Ile Trp Pro Met
      180   185   190

Leu Ile His Ile Met Asp Gln Lys Glu Leu Glu Pro Gly Asp Gly Pro
      195   200   205

Ile Ala Val Ile Val Cys Pro Thr Arg Glu Leu Cys Gln Gln Ile His
     210   215   220

Ala Glu Cys Lys Arg Phe Gly Lys Ala Tyr Asn Leu Arg Ser Val Ala
225   230   235   240

Val Tyr Gly Gly Gly Ser Met Trp Glu Gln Ala Lys Ala Leu Gln Glu
        245   250   255

Gly Ala Glu Ile Val Val Cys Thr Pro Gly Arg Leu Ile Asp His Val
        260   265   270

Lys Lys Lys Ala Thr Asn Leu Gln Arg Val Ser Tyr Leu Val Phe Asp
      275   280   285

Glu Ala Asp Arg Met Phe Asp Met Gly Phe Glu Tyr Gln Val Arg Ser
     290   295   300

Ile Ala Ser His Val Arg Pro Asp Arg Gln Thr Leu Leu Phe Ser Ala
305   310   315   320

Thr Phe Arg Lys Lys Ile Glu Lys Leu Ala Arg Asp Ile Leu Ile Asp
        325   330   335

Pro Ile Arg Val Val Gln Gly Asp Ile Gly Glu Ala Asn Glu Asp Val
        340   345   350

Thr Gln Ile Val Glu Ile Leu His Ser Gly Pro Ser Lys Trp Asn Trp
      355   360   365

Leu Thr Arg Arg Leu Val Glu Phe Thr Ser Ser Gly Ser Val Leu Leu
     370   375   380

Phe Val Thr Lys Lys Ala Asn Ala Glu Glu Leu Ala Asn Asn Leu Lys
385   390   395   400

Gln Glu Gly His Asn Leu Gly Leu Leu His Gly Asp Met Asp Gln Ser
            405   410   415

Glu Arg Asn Lys Val Ile Ser Asp Phe Lys Lys Lys Asp Ile Pro Val
            420   425   430

Leu Val Ala Thr Asp Val Ala Ala Arg Gly Leu Asp Ile Pro Ser Ile
            435   440   445

Lys Thr Val Ile Asn Tyr Asp Val Ala Arg Asp Ile Asp Thr His Thr
    450   455   460

His Arg Ile Gly Arg Thr Gly Arg Ala Gly Glu Lys Gly Val Ala Tyr
465   470   475   480

Thr Leu Leu Thr Pro Lys Asp Ser Asn Phe Ala Gly Asp Leu Val Arg
            485   490   495

Asn Leu Glu Gly Ala Asn Gln His Val Ser Lys Glu Leu Leu Asp Leu
            500   505   510

Ala Met Gln Asn Ala Trp Phe Arg Lys Ser Arg Phe Lys Gly Gly Lys
            515   520   525

Gly Lys Lys Leu Asn Ile Gly Gly Gly Gly Leu Gly Tyr Arg Glu Arg
    530   535   540

Pro Gly Leu Gly Ser Glu Asn Met Asp Arg Gly Asn Asn Asn Val Met
545   550   555   560

Ser Asn Tyr Glu Ala Tyr Lys Pro Ser Thr Gly Ala Met Gly Asp Arg
            565   570   575

Leu Thr Ala Met Lys Ala Ala Phe Gln Ser Gln Tyr Lys Ser His Phe
            580   585   590

Val Ala Ala Ser Leu Ser Asn Gln Lys Ala Gly Ser Ser Ala Ala Gly
            595   600   605

Ala Ser Gly Trp Thr Ser Ala Gly Ser Leu Asn Ser Val Pro Thr Asn
    610   615   620

Ser Ala Gln Gln Gly His Asn Ser Pro Asp Ser Pro Val Thr Ser Ala
625   630   635   640

Ala Lys Gly Ile Pro Gly Phe Gly Asn Thr Gly Asn Ile Ser Gly Ala
            645   650   655

Pro Val Thr Tyr Pro Ser Ala Gly Ala Gln Gly Val Asn Asn Thr Ala
            660   665   670

Ser Gly Asn Asn Ser Arg Glu Gly Thr Gly Gly Ser Asn Gly Lys Arg
    675   680   685

Glu Arg Tyr Thr Glu Asn Arg Gly Ser Ser Pro Ser Gln Ser Arg Arg
   690   695   700

Asp Trp Gln Ser Ala
705

<210> 336
<211> 480
<212> PRT
<213> Homo sapiens

<400> 336
Met Ile Arg Ala Ala Pro Pro Pro Leu Phe Leu Leu Leu Leu Leu Leu
            5   10   15

Leu Leu Leu Val Ser Trp Ala Ser Arg Gly Glu Ala Ala Pro Asp Gln
          20   25   30

Asp Glu Ile Gln Arg Leu Pro Gly Leu Ala Lys Gln Pro Ser Phe Arg
       35   40   45

Gln Tyr Ser Gly Tyr Leu Lys Ser Ser Gly Ser Lys His Leu His Tyr
    50   55   60

Trp Phe Val Glu Ser Gln Lys Asp Pro Glu Asn Ser Pro Val Val Leu
65   70   75   80

Trp Leu Asn Gly Gly Pro Gly Cys Ser Ser Leu Asp Gly Leu Leu Thr
          85   90   95

Glu His Gly Pro Phe Leu Val Gln Pro Asp Gly Val Thr Leu Glu Tyr
        100   105   110

Asn Pro Tyr Ser Trp Asn Leu Ile Ala Asn Val Leu Tyr Leu Glu Ser
        115   120   125

Pro Ala Gly Val Gly Phe Ser Tyr Ser Asp Asp Lys Phe Tyr Ala Thr
        130   135   140

Asn Asp Thr Glu Val Ala Gln Ser Asn Phe Glu Ala Leu Gln Asp Phe
145   150   155   160

Phe Arg Leu Phe Pro Glu Tyr Lys Asn Asn Lys Leu Phe Leu Thr Gly
          165   170   175

Glu Ser Tyr Ala Gly Ile Tyr Ile Pro Thr Leu Ala Val Leu Val Met
        180   185   190

Gln Asp Pro Ser Met Asn Leu Gln Gly Leu Ala Val Gly Asn Gly Leu
        195   200   205

Ser Ser Tyr Glu Gln Asn Asp Asn Ser Leu Val Tyr Phe Ala Tyr Tyr
        210   215   220

```
His Gly Leu Leu Gly Asn Arg Leu Trp Ser Ser Leu Gln Thr His Cys
225             230             235                 240

Cys Ser Gln Asn Lys Cys Asn Phe Tyr Asp Asn Lys Asp Leu Glu Cys
                245             250             255

Val Thr Asn Leu Gln Glu Val Ala Arg Ile Val Gly Asn Ser Gly Leu
            260             265             270

Asn Ile Tyr Asn Leu Tyr Ala Pro Cys Ala Gly Gly Val Pro Ser His
        275             280             285

Phe Arg Tyr Glu Lys Asp Thr Val Val Val Gln Asp Leu Gly Asn Ile
    290             295             300

Phe Thr Arg Leu Pro Leu Lys Arg Met Trp His Gln Ala Leu Leu Arg
305             310             315                 320

Ser Gly Asp Lys Val Arg Met Asp Pro Pro Cys Thr Asn Thr Thr Ala
                325             330             335

Ala Ser Thr Tyr Leu Asn Asn Pro Tyr Val Arg Lys Ala Leu Asn Ile
            340             345             350

Pro Glu Gln Leu Pro Gln Trp Asp Met Cys Asn Phe Leu Val Asn Leu
            355             360             365

Gln Tyr Arg Arg Leu Tyr Arg Ser Met Asn Ser Gln Tyr Leu Lys Leu
    370             375             380

Leu Ser Ser Gln Lys Tyr Gln Ile Leu Leu Tyr Asn Gly Asp Val Asp
385             390             395                 400

Met Ala Cys Asn Phe Met Gly Asp Glu Trp Phe Val Asp Ser Leu Asn
                405             410             415

Gln Lys Met Glu Val Gln Arg Arg Pro Trp Leu Val Lys Tyr Gly Asp
            420             425             430

Ser Gly Glu Gln Ile Ala Gly Phe Val Lys Glu Phe Ser His Ile Ala
        435             440             445

Phe Leu Thr Ile Lys Gly Ala Gly His Met Val Pro Thr Asp Lys Pro
    450             455             460

Leu Ala Ala Phe Thr Met Phe Ser Arg Phe Leu Asn Lys Gln Pro Tyr
465             470             475                 480
```

```
<210> 337
<211> 543
<212> PRT
<213> Homo sapiens
```

<400> 337

```
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
                  5                  10                  15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
                 20                  25                  30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
             35                  40                  45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
         50                  55                  60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                 85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
         115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
     130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
         195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
     210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
            245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
```

```
              275                    280                    285
Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu
    290                    295                    300

Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg
305                    310                    315                    320

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                    330                    335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
                340                    345                    350

Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
                355                    360                    365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr
    370                    375                    380

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                    390                    395                    400

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr Lys
                405                    410                    415

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala
                420                    425                    430

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr
                435                    440                    445

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr
    450                    455                    460

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser
465                    470                    475                    480

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala
                485                    490                    495

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser
                500                    505                    510

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu
                515                    520                    525

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
    530                    535                    540


<210> 338
<211> 148
<212> PRT
```

<213> Homo sapiens

<400> 338
Pro Pro Ala Thr Ser Tyr Ala Pro Ser Asp Val Pro Ser Gly Val Ala
                5   10   15

Leu Phe Leu Thr Ile Pro Phe Ala Phe Phe Leu Pro Glu Leu Ile Phe
            20   25   30

Gly Phe Leu Val Trp Thr Met Val Ala Ala Thr His Ile Val Tyr Pro
        35   40   45

Leu Leu Gln Gly Trp Val Met Tyr Val Ser Leu Thr Ser Phe Leu Ile
    50   55   60

Ser Leu Met Phe Leu Leu Ser Tyr Leu Phe Gly Phe Tyr Lys Arg Phe
65   70   75   80

Glu Ser Trp Arg Val Leu Asp Ser Leu Tyr His Gly Thr Thr Gly Ile
            85   90   95

Leu Tyr Met Ser Ala Ala Val Leu Gln Val His Ala Thr Ile Val Ser
            100   105   110

Glu Lys Leu Leu Asp Pro Arg Ile Tyr Tyr Ile Asn Ser Ala Ala Ser
        115   120   125

Phe Phe Ala Phe Ile Ala Thr Leu Leu Tyr Ile Leu His Ala Phe Ser
    130   135   140

Ile Tyr Tyr His
145

<210> 339
<211> 196
<212> PRT
<213> Homo sapiens

<400> 339
Met Pro Gly Met Phe Phe Ser Ala Asn Pro Lys Glu Leu Lys Gly Thr
                5   10   15

Thr His Ser Leu Leu Asp Asp Lys Met Gln Lys Arg Arg Pro Lys Thr
            20   25   30

Phe Gly Met Asp Met Lys Ala Tyr Leu Arg Ser Met Ile Pro His Leu
        35   40   45

Glu Ser Gly Met Lys Ser Ser Lys Ser Lys Asp Val Leu Ser Ala Ala
    50   55   60

Glu Val Met Gln Trp Ser Gln Ser Leu Glu Lys Leu Leu Ala Asn Gln
65   70   75   80

Thr Gly Gln Asn Val Phe Gly Ser Phe Leu Lys Ser Glu Phe Ser Glu
                85   90   95

Glu Asn Ile Glu Phe Trp Leu Ala Cys Glu Asp Tyr Lys Lys Thr Glu
                100   105   110

Ser Asp Leu Leu Pro Cys Lys Ala Glu Glu Ile Tyr Lys Ala Phe Val
            115   120   125

His Ser Asp Ala Ala Lys Gln Ile Asn Ile Asp Phe Arg Thr Arg Glu
        130   135   140

Ser Thr Ala Lys Lys Ile Lys Ala Pro Thr Pro Thr Cys Phe Asp Glu
145   150   155   160

Ala Gln Lys Val Ile Tyr Thr Leu Met Glu Lys Asp Ser Tyr Pro Arg
                165   170   175

Phe Leu Lys Ser Asp Ile Tyr Leu Asn Leu Leu Asn Asp Leu Gln Ala
            180   185   190

Asn Ser Leu Lys
        195

<210> 340
<211> 316
<212> PRT
<213> Homo sapiens

<400> 340
Met Ala Thr Phe Val Glu Leu Ser Thr Lys Ala Lys Met Pro Ile Val
                5   10   15

Gly Leu Gly Thr Trp Lys Ser Pro Leu Gly Lys Val Lys Glu Ala Val
            20   25   30

Lys Val Ala Ile Asp Ala Gly Tyr Arg His Ile Asp Cys Ala Tyr Val
        35   40   45

Tyr Gln Asn Glu His Glu Val Gly Glu Ala Ile Gln Glu Lys Ile Gln
        50   55   60

Glu Lys Ala Val Lys Arg Glu Asp Leu Phe Ile Val Ser Lys Leu Trp
65   70   75   80

Pro Thr Phe Phe Glu Arg Pro Leu Val Arg Lys Ala Phe Glu Lys Thr
                85   90   95

Leu Lys Asp Leu Lys Leu Ser Tyr Leu Asp Val Tyr Leu Ile His Trp
            100   105   110

Pro Gln Gly Phe Lys Ser Gly Asp Asp Leu Phe Pro Lys Asp Asp Lys

```
                115                  120                      125

Gly Asn Ala Ile Gly Gly Lys Ala Thr Phe Leu Asp Ala Trp Glu Ala
    130                 135                 140

Met Glu Glu Leu Val Asp Glu Gly Leu Val Lys Ala Leu Gly Val Ser
145                 150                 155                 160

Asn Phe Ser His Phe Gln Ile Glu Lys Leu Leu Asn Lys Pro Gly Leu
                165                 170                 175

Lys Tyr Lys Pro Val Thr Asn Gln Val Glu Cys His Pro Tyr Leu Thr
            180                 185                 190

Gln Glu Lys Leu Ile Gln Tyr Cys His Ser Lys Gly Ile Thr Val Thr
            195                 200                 205

Ala Tyr Ser Pro Leu Gly Ser Pro Asp Arg Pro Trp Ala Lys Pro Glu
    210                 215                 220

Asp Pro Ser Leu Leu Glu Asp Pro Lys Ile Lys Glu Ile Ala Ala Lys
225                 230                 235                 240

His Lys Lys Thr Ala Ala Gln Val Leu Ile Arg Phe His Ile Gln Arg
                245                 250                 255

Asn Val Ile Val Ile Pro Lys Ser Val Thr Pro Ala Arg Ile Val Glu
                260                 265                 270

Asn Ile Gln Val Phe Asp Phe Lys Leu Ser Asp Glu Glu Met Ala Thr
                275                 280                 285

Ile Leu Ser Phe Asn Arg Asn Trp Arg Ala Cys Asn Val Leu Gln Ser
    290                 295                 300

Ser His Leu Glu Asp Tyr Pro Phe Asn Ala Glu Tyr
305                 310                 315
```

```
<210> 341
      <211> 422
      <212> DNA
      <213> Homo sapien

      <220>
      <221> misc_feature
      <222> (1)...(422)
      <223> n = A,T,C or G

      <400> 341
  gatganattn ttncnagaga gaggaagang ctattcagtt ggatgggatt aaatgcatca      60
  caaataagag aacttagaga gaagtcggaa aagtttgcct tccaagcccg aagttaacag     120
  aatgatgaaa cttatcatca attcattgta taaaataaa  gagattttcc tgagagaact     180
  gatttcaaat gcttctgatg ctttagataa gataaggcta atatcactga ctgatgaaaa     240
  tgctctttct ggaaatgagg aactaacagt caaaattaag tgtgataagg agaagacctg     300
```

```
ctgcatgtca cagacaccgg tgtaggaatg accagagaag agttggttaa aaaccttggt    360
accatagcca aatctgggac aagcgagttt ttaaacaaaa tgactgaagc acaggaagat    420
gg                                                                   422
```

        <210> 342
        <211> 472
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(472)
        <223> n = A,T,C or G

        <400> 342
```
ctggagaagg tgtgcagggg aaaccctgct gatgtcaccg aggccaggtt gtctttctac     60
tcgggacact cttcctttgg gatgtactgc atggtgttct tggcgctgna tgtgcaggca    120
cgactctgtt ggaagtgggc acggctgctg cgacccacag tccagttctt cctggtggcc    180
tttgccctct acgtgggcta cacccgcgtg tctgattaca aacaccactg gagcgatgtc    240
cttgttggcc tcctgcaggg ggcactggtg gctgccctca ctgtctgcta catctcagac    300
ttcctcaaag cccgaccccc acagcactgt ctgaaggagg aggagctgga acggaagccc    360
agcctgtcac tgacgttgac cctgggcgag gctgaccaca accactatgg atacccgcac    420
tcctcctcct gaggccggac cccgcccagg cagggagcta ctgtgagtcc ag            472
```

        <210> 343
        <211> 139
        <212> DNA
        <213> Homo sapien

        <400> 343
```
gtcctgggcc ttcccttcc ctcaagccag ggctcctcct cctgtcgtgg gctcattgtg     60
accactggcc tctctacagc acggcctgtg gcctgttcaa ggcagaacca cgacccttga    120
ctcccgggtg gggaggtgg                                                 139
```

        <210> 344
        <211> 235
        <212> DNA
        <213> Homo sapien

        <400> 344
```
ctgcgggctc agcacagtag acatgactgg gatccccacc ttggacaacc tccagaaggg     60
agtccaattt gctctcaagt accagtcgct gggccagtgt gtttacgtgc attgtaaggc    120
tgggcgctcc aggagtgcca ctatggtggc agcatacctg attcaggtgc acaaatggag    180
tccagaggag gctgtaagag ccatcgccaa gatccggtca tacatccaca tcagg         235
```

        <210> 345
        <211> 458
        <212> DNA
        <213> Homo sapien

        <400> 345
```
ctgtaaggtg ctattcagtc ctgtgaccct tattttggaa tgctcttcat tactgttgct     60
ctgtttgtg acttcctggg aaaccgccta ctttggtgtg tgtgtcacctt gagctgtgca    120
cataggacac cagttttgac ttaacctaac aggcagtttt tatctctagc tttttcaagc    180
```

```
caggtattga gcagtttctt ggccaatggc ctgagaaacc acctgtccct gtcaaggggt    240
gattttattg gttttaagtg gggaagtaat cccatgtact tatttcttaa atacctagga    300
agttcttctt ggtggctcct cttggccctc ccctctttct cccccaaccc accatcctgc    360
aaggcaagga atggcctctc cctccacaga ggcaacggct gcagagggag cactgtggct    420
gccatcccag ttcctcttca aagccaaaca gacacgcg                           458
```

```
        <210> 346
        <211> 525
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(525)
        <223> n = A,T,C or G

        <400> 346
ccagagcaca acgcctcacc atggactgga cctggaggat nntcttnnng gtggcagcag     60
ccacaggtgt ccactcccaa gcccaacttg tgcagtctgg ggctgaggag aagaagcctg    120
gggcctcagt gactatttct tgtaaggctt ctggatatat ncttactaaa tatactttac    180
attgggtgcg ccaggccccc cccggacaaa gacctgaatg ggtgggatgg atcaacactg    240
gcattgatac cgttaaatat tcacagaagt ttcaggacag agtctccatt acctgggact    300
catccgcgac cacagnctac ctgnanntga gtagcctgga atccgaagac acggctgtgt    360
attactgtgc gagacttang gcccgttcgc tgtggtggga cttaatgacg cttttgacat    420
ctggggccaa gggacagtgg tcaccgtctc ttcanggagt gcattcgccc caaccctttt    480
cccccctctct cctgtgaaga attccccgnc ggatacgagc agcgt                  525
```

```
        <210> 347
        <211> 423
        <212> DNA
        <213> Homo sapien

        <400> 347
ccagacgctg acttgtttct gagtccttaa gcaggaagga tttgaaatcc tggagcttgg     60
cagtcttgct cttcacctct aagccaatgt tgacccttc atctataaag tccacaactc     120
tccggaagtc atcctcacgg aactgtcgag aagttaaggc tggggcccca agccgcaggc    180
cgcccggtgt gatggcactt cggtctccag gacaggtgtt cttgttggca gtgatggata    240
caagctctag cacccgctca gcccgagctc catccaggcc cttgggccgc aggtccacca    300
gcaccaggtg gttgtcagta ccacctgata ccagtgagta gcctcgctct agcagggcat    360
ctgccatggc ccgagcattc ttcagaacct gcagggagta ctcccggaac atgggggtgc    420
agg                                                               423
```

```
        <210> 348
        <211> 513
        <212> DNA
        <213> Homo sapien

        <400> 348
cctctaggcc tgatgctctc agaggcaata gaagaaaagt aaaaggaagg tctcacttca     60
cagacaatga aaccctccta accctcttcc ccactaccca caactcccta cactgccaat    120
ctaaataaaa agaggacaat gcatgagtgt gagatacaca tacacacaca cacatacaca    180
cacacacacg cacagcttcc tttcagccaa agaactgcaa aatccttccc cggaaggagg    240
acaactggca acaccaatca aggcttggtg gtctaaggtg atggctggaa tcatgtgaga    300
ctggtaaaaa tccagggaga aaatgtttca ccttcagctc attcccaagt ctctatgaag    360
```

```
cccgccccac ttccacatag gggaactgtg gctctggggg cagcctctgc agctactcag        420
aataggtggg aggaggggct ggctttgagg ctgccttagc catgaggctc tttgcctagg        480
aatagctgga gatgggagct gcaggggggct cag                                    513
```

```
        <210> 349
        <211> 231
        <212> DNA
        <213> Homo sapien


        <400> 349
ccttatttct cttgtccttt cgtacaggga ggaatttgaa gtagatagaa accgacctgg         60
attactccgg tctgaactca gatcacgtag gactttaatc gttgaacaaa cgaaccttta        120
atagcggctg caccatcggg atgtcctgat ccaacatcga ggtcgtaaac cctattgttg        180
atatggactc tagagtagga ttgcgctgtt atccctaggg taacttgttc c                231
```

```
        <210> 350
        <211> 341
        <212> DNA
        <213> Homo sapien


        <400> 350
ctgcccaagg gcgttcgtaa cgggaatgcc gaagcgtggg aaaaagggag cggtggcgga         60
agacggggat gagctcagga cagagccaga ggccaagaag agtaagacgg ccgcaaagaa        120
aaatgacaaa gaggcagcag gagagggccc agccctgtat gaggacccccc cagatcagaa        180
aacctcaccc agtggcaaac ctgccacacc caagatctgc tcttggaatg tggatgggct        240
tcgagcctgg attaagaaga aaggattaga ttgggtaaag gaagaagccc cagatatact        300
gtgccttcaa gagaccaaat gttcagagaa caaactacca g                           341
```

```
        <210> 351
        <211> 256
        <212> DNA
        <213> Homo sapien


        <400> 351
ggcgttgggg acggttgtag gacgtggctc tttattcgtg agttttccat ttacctccgc         60
tgaacctaga gcttcagacg ccctatggcg tccgcctcga cccaaccggc ggccttgagc        120
gctgagcaag caaaggtggt cctcgcggag gtgatccagg cgttctccgc cccggagaat        180
gcagtgcgca tggacgaggc tcgggataac gcctgcaacg acatgggtaa gatgctgcaa        240
ttcgtgctgc ccgtgg                                                        256
```

```
        <210> 352
        <211> 368
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(368)
        <223> n = A,T,C or G


        <400> 352
cctttcttgt aagtgaagaa naaggaatgc agcaaagaag agttcgacat tggagtcctt         60
agttccatca ggatcccatt cgcagccttt agcatcatgt agaagcaaac tgcacctatg        120
gctgagatag gtgcaatgac ctacaagatt ttgtgttttc tagctgtcca ggaaaagcca        180
```

```
tcttcagtct tgctgacagt caaagagcaa gtgaaaccat ttccagccta aactacataa      240
aagcagccga accaatgatt aaagacctct aaggctccat aatcatcatt aaatatgccc      300
aaactcattg tgacttttta ttttatatac aggattaaaa tcaacattaa atcatcttat      360
ttacatgg                                                              368
```

```
        <210> 353
        <211> 368
        <212> DNA
        <213> Homo sapien

        <400> 353
ctgaggggtg gcagtaagca atgaggatgg gctataaagc tgttaactgg ctaagggcca       60
tccttgggca ggcatttcag acacatctgt agagagggca gtagcatctc cgataggcca      120
gctctgaagg aagcttaatg cttaatacag tcacactgca taaattagct tagaatgctc      180
tcttgggtaa aaaatattaa tagtgtatat gcacttgaag agcaaaattc ctcaagaaaa      240
aaagtttaat agcaaggagt ttccatcagt cccggtcttt gtgaggatta ccacaacaaa      300
cacttaaaag gatacaacag gtacttatta aatgctgcct tgccttttac ctcttccttt      360
tttttttt                                                              368
```

```
        <210> 354
        <211> 380
        <212> DNA
        <213> Homo sapien

        <400> 354
ccatggcttc tcacccagac agtctttctg ggcaacttgg ggaagcccct gttctgctca       60
agtctcaccc catggaagag gtgggggaag ggggccttgg tttttcagga agacaggttg      120
gagagcacga gtcactacaa agcagtaaaa gtgaatggtg tctccagggg ctgggtccag      180
aacaccacgg agagccccag ccataaaggt gtgttccgcc tctggcctgc aggaatctct      240
ttgaatctct ttgattggtg gctccaagag caatgggaag tcaacagcca ggaggctgga      300
ctgggttccc tgggaccccg aggtcccaga gctgctgggc agtggttgtc ggcaaagaag      360
aaaggtccaa gagggtcagg                                                 380
```

```
        <210> 355
        <211> 347
        <212> DNA
        <213> Homo sapien

        <400> 355
ccagtggagg ggtggggggta tcgatcccgc cgggggctgg cttggttgct ggtgccctga       60
gcccttctct gcccgcctgg gtgttgcctt cactgatgga ggtaggcgtc cagccagatg      120
tcaccagact tcttcgggga cctgacgatg tccaccagcg cggtgaggaa gggcttcact      180
tcgtagctga ggccgtgctt ggcacacagc gacttgacca gcggggccac ccggctgtag      240
ttgtgtctcg gcatcctggg gaagaggtgg tgctcgatct ggaagttgag gtgcccgctg      300
aaccagttgg tgaaaagtga gggctccacg ttgcaggtgg ctgccag                   347
```

```
        <210> 356
        <211> 157
        <212> DNA
        <213> Homo sapien

        <400> 356
cctggagctg ctgaagactg ctattgggaa agctggctac actgataagg tggtcatcgg       60
catggacgta gcggcctccg agttcttcag gtctgggaag tatgacctgg acttcaagtc      120
```

```
tcccgatgac cccagcaggt acatctcgcc tgaccag                              157
```

        <210> 357
        <211> 323
        <212> DNA
        <213> Homo sapien

        <400> 357
```
ccatacaggg ctgttgccca ggccctagag gtcactcctc gtaccctgat ccagaactgt       60
gggggccagca ccatccgtct acttacctcc cttcgggcca agcacaccca ggagaactgt      120
gagacctggg gtgtaaatgg tgagacgggt actttggtgg acatgaagga actgggcata      180
tgggagccat tggctgtgaa gctgcagact tataagacag cagtggagac ggcagttctg      240
ctactgcgaa ttgatgacat cgtttcaggc cacaaaaaga aaggcgatga ccagagccgg      300
caaggcgggg ctcctgatgc tgg                                             323
```

        <210> 358
        <211> 555
        <212> DNA
        <213> Homo sapien

        <400> 358
```
aaaaggtttc taaaacatga cggaggttga gatgaagctt cttcatggag taaaaaatgt       60
atttaaaaga aaattgagag aaaggactac agagccccga gttaatacca atagaagggc      120
aatgctttta gattaaaatg aaggtgactt aaacagctta aagtttagtt taaaagttgt      180
aggtgattaa ataatttga aggcgatctt ttaaaaagag attaaaccga aggtgattaa       240
aagaccttga aatccatgac gcagggagaa ttgcgtcatt taaagcctag ttaacgcatt      300
tactaaacgc agacgaaaat ggaaagatta attgggagtg gtaggatgaa acaatttgga      360
gaagatagaa gtttgaagtg aaaaactgga agacagaagt acgggaaggc gaagaaaaga      420
atagagaaga tagggaaatt agaagataaa aacatacttt tagaagaaaa aagataaatt      480
taaacctgaa aagtaggaag cagaagaaaa aagacaagct aggaaacaaa aagctaaggg      540
caaaatgtac accac                                                     555
```

        <210> 359
        <211> 549
        <212> DNA
        <213> Homo sapien

        <400> 359
```
ctgccaggct gaaaagaagc ctcagctccc acaccgccct cctcaccgcc cttcctcggc       60
agtcacttcc actggtggac cacgggcccc cagccctgtg tcggccttgt ctgtctcagc      120
tcaaccacag tctgacacca gagcccactt ccatcctctc tggtgtgagg cacagcgagg      180
gcagcatctg gaggagctct gcagcctcca cacctaccac gacctcccag ggctgggctc      240
aggaaaaacc agccactgct ttacaggaca gggggttgaa gctgagcccc gcctcacacc      300
caccccatg cactcaaaga ttggatttta cagctacttg caattcaaaa ttcagaagaa      360
taaaaaatgg gaacatacag aactctaaaa gatagacatc agaaattgtt aagttaagct      420
ttttcaaaaa atcagcaatt ccccagcgta gtcaagggtg gacactgcac gctctggcat      480
gatgggatgg cgaccgggca agctttcttc ctcgagatgc tcttgctgct tgagagctat      540
tgctttggt                                                            549
```

        <210> 360
        <211> 289
        <212> DNA
        <213> Homo sapien

```
<400> 360
tttaaatttt actagtgtta cttaatgtat attctaaaaa gagaatgcag taactaatgc      60
cctaaatgtt tgatctctgt ttgtcattac tttttcaaaa ttattttttt ctgtaaagta     120
taatatataa aacttcttgc ttaaattgaa tttctatatt agtggttaat tgcagtttat     180
taaagggatc attatcagta atttcatagc aactgttcta gtgttttgtg tttttaaaac     240
agaattagga atttgagata tctgattata ttttttcatat gaatcacag                289


     <210> 361
     <211> 311
     <212> DNA
     <213> Homo sapien


     <400> 361
ctgttcagta tggcaaaggg cagacttact ccttcatcca ctctgctgcc ttgatgaggt      60
gaacacactg gaataagatg gagggcagga tacctgccaa agcctgagga atgagatgat     120
ctgaaacaat tgggcaaagg ctggacattt caaaaagctg acttccaact gcagtttatg     180
ggtatagaat ttgatgcttc cctcaagtcc tgactgctct ttctgaggca gccaggctag     240
gccaagaaat gagctgctcc agcttctcca gagcacagca gcctcccagg gcctgtcagc     300
atctgcagca g                                                          311


     <210> 362
     <211> 496
     <212> DNA
     <213> Homo sapien


     <220>
     <221> misc_feature
     <222> (1)...(496)
     <223> n = A,T,C or G


     <400> 362
ccagtttcta aaanaatgca catttaaaga gaagcatcta ccacggcttt aaaacaaaac      60
aactctgaga tgaacaatat gtgttatact cagagattaa caatctcaat catacatact     120
gattctttca gacatttaat aaccactaca ttttttttgca ttaatgaagt ttgactatat     180
gtgtaaaggg actaaatatt tttgcaacag cctgttcttt gttcattctt ttctggatag     240
cgtgtcctct gtattgcggt agatttatac attctgttgc ctaaatatgt gtgtaaaatg     300
agctgataaa ctggagtact acttaaaaaa aagtctgtga tttataagat gcatatgctt     360
tctatgtgaa tataagcttg tgcacaatgt ttaaaagaaa aacaatgaat tagaagagat     420
cccccgtccc ccagtctgac atatttcata cagaatgttt aaaagaaaaa ctctgctagt     480
cttggcaaac atttgg                                                     496


     <210> 363
     <211> 673
     <212> DNA
     <213> Homo sapien


     <220>
     <221> misc_feature
     <222> (1)...(673)
     <223> n = A,T,C or G


     <400> 363
ccaagaggga gataanacaa acttctcaaa caaaaagaaa agaaaaacga atgattcatc      60
tgctttaatc agtgtgatta atgcagcacc cattgccccg ggaaccgttt ctgctgtact     120
```

```
atctggatac taaaatgtta cggaagtagc tctttgttct ccctcactct gcccttagtt      180
aatagaaatt cagactcgcc aagtaaggct ttgtgcatag tgtcttcatg tcgcgtatag      240
ttgagcgcgt tcttagcagt tggcttcatg gacagctcat tagtgttttg acttttctta      300
cccagcgtta attgaattct tgcttttaga caacttcctt tttgtagtgg tgaaccttgc      360
cctttagtac agttcaagtg aatctggata attgttcatc tttgctttag cttagatacc      420
atgtagtggt ctgtggctac aggaagctgg ttctgtctgc ttccacagtc tgcttaaaaa      480
actgtctgac ttcgtgaata tagagaccaa gtttaccact tctgatgaag agaccaatta      540
agattcattc ctcattctgt ttctttccag tgggagaaga gtccccatga aataagatga      600
aactgattcc atgcactagt acatgtaggc ttctcccttg cgcaaagctt aacaatttgt      660
aggaaacttt ggg                                                         673
```

```
        <210> 364
        <211> 495
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(495)
        <223> n = A,T,C or G

        <400> 364
ccaaatgttt gcncaagact agcagagttt ttcttttaaa cattctgtat gaaatatgtc       60
agactggggg acgggggatc tcttctaatt cattgttttt cttttaaaca ttgtgcacaa      120
gcttatattc acatagaaag catatacatc ttataaatca cagacttttt tttaagtagt      180
actccagttt atcagctcat tttacacaca tatttaggca acagaatgta taaatctacc      240
gcaatacaga ggacacacta tccagaaaag aatgaacaaa gaacaggctg ttgcaaaaat      300
atttagtccc tttacacata tagtcaaact tcattaatgc aaaaaatgta gtggttatta      360
aatgtctgaa agaatcagta tgtatgattg agattgttaa tctctgagta taacacatat      420
tgttcatctc agagttgttt tgttttaaag ccgtggtaga tgcttctctt taaatgtgca      480
tttttttagaa actgg                                                      495
```

```
        <210> 365
        <211> 291
        <212> DNA
        <213> Homo sapien

        <400> 365
aactgacaag cccttgcgcc tgcctctcca ggatgtctac aaaattggtg gtattggtac       60
tgttcctgtt ggcccgagtg gagactggtg ttctcaaacc cggtatggtg gtcacctttg      120
ctccagtcaa cgttacaacg gaagtaaaat ctgtcgaaat gcaccatgaa gctttgagtg      180
aagctcttcc tggggacaat gtgggcttca atgtcaagaa tgtgtctgtc aaggatgttc      240
gtcgtggcaa cgttgctggt gacagcaaaa atgacccacc aatggaagca g               291
```

```
        <210> 366
        <211> 277
        <212> DNA
        <213> Homo sapien

        <400> 366
ctggatggtg cctcagaagg tgcattctgc ttctgcaggg gcttgaaaca ccaaggcact       60
ccagggatcc tggagtcaaa gcagcagccc cggttgttgc actccttggg ggtgacatgg      120
gggtagcccg cagtccaccc tgtccttggc tggcacggca cactggtttg cagacaggcc      180
cacgtactcc tcagcagagc tggaggacaa gcaaggccag gaccagcccc agcatgcaga      240
```

```
gcgctctggc agccatgacc accgtgggct ccgggac                        277
```

```
        <210> 367
        <211> 311
        <212> DNA
        <213> Homo sapien
```

```
        <400> 367
ccagagctgc ggggcctcag tacacggagc tgttccggat gccacagcac agcaccatgc   60
tcaggatcat ctcgaagatc atgatcacag cgaccacgat ggcagcaatg ccgatgaggt  120
acagcttccc ggagaagagg tcatcgatct tctggtggca gtcctccttg aagaggttgc  180
tgatgatgtt gctgcccgag ggacacaaat tgttcttgag cactgaggtg gtcaaagcag  240
tcagtgtgct ggagccacag cagtcaagcg tctcgtggaa ggtcttcacc acagccttgg  300
cgttgttggc g                                                        311
```

```
        <210> 368
        <211> 384
        <212> DNA
        <213> Homo sapien
```

```
        <400> 368
ccaaagggt ctctagctgc tgctctgctg ctcctgctca tggatgagtt tggcgatggg   60
gccggtgatg ccgcctatca aggtccagta ctcatcgaag ctgatgcgcc catcaggatt  120
ggcatccagg ttctggatga gcttatccgc agccttccgg ttccctgtgt ccgacagcat  180
gtggttcagc tctttctgga gcatctcgcg gaagctgctc ttgctgatct tgttcttgac  240
caggctgtac ctagacacat atttgtagaa gttttccacc aggacaatga ctgccttctc  300
cagctccgtg tagcaagtct gacatctccc tgcttcgcct gctggcgggg cctaaggcgg  360
gggccaagcc cagttacagc ccag                                          384
```

```
        <210> 369
        <211> 216
        <212> DNA
        <213> Homo sapien
```

```
        <400> 369
ccaagtgcca ggtggctttc agcagcttcc tacgatcagc cgaagaaagc agaagctctg   60
gaggctgcca tcgagaacct caatgaagcc aagaactatt ttgcaaaggt tgactgcaaa  120
gagcgcatca gggacgtcgt ttacttccag gccagactct accataccct ggggaagacc  180
caggagagga accggtgtgc gatgctcttc cggcag                             216
```

```
        <210> 370
        <211> 561
        <212> DNA
        <213> Homo sapien
```

```
        <400> 370
ctggctcctt cttttgtggt cgtttggggg atgggctggt ttggggttta ggtgcagaga   60
atggtttggg gccactgcgt actggaccac tctgagcctt cagggcaggg ttcttgtgag  120
tcttcatgtc atcagataca tgtttcaggg catgtgtaat gctctccccc tgattaatct  180
gcgcgaacag tgctgagcgg gaagcagact catctgagcc tgaactggta gagactgggg  240
gaggagggg gcctggtgga gggggaggag gacctgatcc ggcagaggt ccagatggca  300
gtccgctcag ttcttttgcc acaggccccg ttttgctcca ggccagtccg gtggtatgga  360
actccttaat gtaagcctgc agctctgtcc atatacttaa ataagctttg acccagtcta  420
catgcttctt atccacatct ttgtactctt tgaggactcg gtttgtataa aacatggcgg  480
```

```
catcattcat ttctttcgca taagggccag gcttgggagc catagccacc cagcccaggg      540
cctggatact ttcgctgaca g                                                561
```

```
        <210> 371
        <211> 518
        <212> DNA
        <213> Homo sapien
```

```
        <400> 371
cccacttcca tcgctctctg gtgtgaggca cagcgagggc agcatctgga ggagctctgc       60
agcctccaca cctaccacga cctcccaggg ctgggctcag gaaaaaccag ccactgcttt      120
acaggacagg gggttgaagc tgagccccgc ctcacaccca cccccatgca ctcaaagatt      180
ggattttaca gctacttgca attcaaaatt cagaagaata aaaaatggga acatacagaa      240
ctctaaaaga tagacatcag aaattgttaa gttaagcttt ttcaaaaaat cagcaattcc      300
ccagcgtagt caagggtgga cactgcacgc tctggcatga tgggatggcg accgggcaag      360
ctttcttcct cgagatgctc tgctgcttga gagctattgc tttgttaaga tataaaaagg      420
ggtttctttt tgtctttctg taaggtggac ttccagcttt tgattgaaag tcctagggtg      480
attctatttc tgctgtgatt tatctgctga aagctcag                             518
```

```
        <210> 372
        <211> 335
        <212> DNA
        <213> Homo sapien
```

```
        <400> 372
ctggaggctg ggtgcaccct gcccagatcc acacctgtac cccggcggaa aggctcatgg       60
gcattgaaga cggtggtgaa aaagccaaag ggaaaagcac caacaccaaa tgagaagtgg      120
aagcccccgg tatcaccaaa tggctggaat ccccctctgc tctccggagc tggtctctgg      180
ccctgggggc ggggtggagt ttttaatctg ggatcctggg gcttctggct ccctcgccca      240
taaagcggga caaccttctc tctgctgatc ccagctttac atactggaca ctcttgccgt      300
tctggccgtg tctccagcca ctgatgaaga catgg                                335
```

```
        <210> 373
        <211> 467
        <212> DNA
        <213> Homo sapien
```

```
        <400> 373
ccactagctg aatcttgaca tggaaggttt tagctaatgc caagtggaga tgcagaaaat       60
gctaagttga cttaggggct gtgcacagga actaaaaggc aggaaagtac taaatattgc      120
tgagagcatc caccccagga aggactttac cttccaggag ctccaaactg gcaccacccc      180
cagtgctcac atggctgact ttatcctccg tgttccattt ggcacagcaa gtggcagtgt      240
ctccaccacc tatgatggtg atgcagcccc tagaagtggc tttcaccacc tcatccatga      300
gagctttggt tccccgggca aaagcttccc attcaaatac ccccacagga ccattccaca      360
caatctgctt agcccgagtg acagcctcag catacttctt gctgctttca ggaccacagt      420
ccaagcccat ccagccagca ggtacgccag aagccacagt ggcttgg                    467
```

```
        <210> 374
        <211> 284
        <212> DNA
        <213> Homo sapien
```

```
        <400> 374
tttccgtaaa agcgtgtaac aagggtgtaa atatttataa ttttttatac ctgttgtgag       60
```

```
acccgagggg cggcggcgcg gtttttttatg gtgacacaaa tgtatatttt gctaacagca      120
attccaggct cagtattgtg accgcggagc cacagggggac cccacgcaca ttccgttgcc      180
ttacccgatg gcttgtgacg cggagagaac cgattaaaac cgtttgagaa actcctccct      240
tgtctagccc tgtgttcgct gtggacgctg tagaggcagg ttgg                       284
```

```
        <210> 375
        <211> 307
        <212> DNA
        <213> Homo sapien

        <400> 375
cctactcttc tccgtccatt gtactatctg cccgtggtgg ggatggcagt aggatcatat       60
ttgatgactt ccgagaagca tattattggc tccgtcataa tactccagag gatgcgaagg      120
tcatgtcctg gtgggattat ggctatcaga ttacagctat ggcaaaccga acaattttag      180
tggacaataa cacatggaat aatacccata tttctcgagt agggcaggca atggcgtcca      240
cagaggaaaa agcctatgag atcatgaggg agctcgatgt cagctatgtg ctggtcattt      300
ttggagg                                                                307
```

```
        <210> 376
        <211> 650
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(650)
        <223> n = A,T,C or G

        <400> 376
ccattgnctn ctnacgtgat gtcatcatct gccaggtcat cttggcaaaa gtcggagcat       60
ttctcagtca ctgcaaagta gcccttctcg ttggagcacc ggaagagacg tgtgtgtttc      120
atgtactcgg catcgtcatc atagggcttc tgtgccccaa tgcccaccca gaagaagttc      180
tcaggctcct caccttcgtt gataacctgc ttgctgtagg aggtgtcaaa catggtgttc      240
aggatgtctt ctgccaactt ggcttcgtca gggtctgatg cccggcccac ccaggcatac      300
acgatgccct ggttgtcctc actctcaaag ggaaccttga ggatgaagca gaactcggag      360
ttgaggaggc tggagtcggt gttgatctgg atgcaccggg tgcagagggc gctgccgttg      420
gtgcggatct ggtagaggct gggctgttgg gcgccctgga ccgccttcct cttgccccgg      480
tggatgatga acttcctctt gaaatgggac aggaacttgg ggttctcctg ctgctgcgtc      540
atgcgtacca cctccagctt cccaggaag aggctctcga acttctttg caggctgaag       600
gtgaaggtga cccacccata ttgggaggct ttcacggccc tgccagaagt                 650
```

```
        <210> 377
        <211> 306
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(306)
        <223> n = A,T,C or G

        <400> 377
tctagatgca tgctcgagcg gccgccagtg tgatgganat ctgcagaatt cgcccttcga       60
gcggccgccc gggcaggttc gggtgctgcc ttcacctgcc aggcccttcc ccgctagctt      120
```

```
ggggcgagca gagctgcgtc cagtggaact aaagccgttc caggattatc aaaaactgag      180
cagcaacctt gggggacctg gatcatcacg gactccccca actggaaggt ccttctctgg      240
cctcaattcc cgtctcaagg ccacgccttc cacctacagt ggagtcttcc gcacccagcg      300
cgtcga                                                                306
```

        <210> 378
        <211> 199
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(199)
        <223> n = A,T,C or G

        <400> 378
```
ccacangtgg cacttgggtg tggctcctct gttatttgtc ctcatgtgag aaagcagatc       60
atctccaaat cttgccattt gtatactttt ggtggagact tggatgtcat atcttctttg      120
ttttgggttt tcttccctag cttattttgt ggcttttaaa gaagtggatt gtattgtgag      180
atcctgtgat tcctggtgg                                                  199
```

        <210> 379
        <211> 216
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(216)
        <223> n = A,T,C or G

        <400> 379
```
ccagggcang tcatcaagag gggcattgtc ttgcatgcgg cctgccgtgt ccaccagcac       60
cacgtcaaag ccttggttac gtgcaaaagc aatggcttcc atggcaatgc cagcagcatc      120
cttgccatag cccttttcaa acaactgcac catggtgcgg ccaccatgct tctctggagg      180
gtgtagggca ctcaaacgcc gggtgtgtgt acgcag                               216
```

        <210> 380
        <211> 555
        <212> DNA
        <213> Homo sapien

        <400> 380
```
ccatgggcct ccttttccac taaaaggaat tccgaacagc aaaaagaagg tcttgagata       60
gtgaaaatgg tgatgatatc tttagaaggt gaagatgggt tggatgaaat ttattcattc      120
agtgagagtc tgagaaaact gtgcgtcttc aagaaaattg agaggcattc cattcactgg      180
ccctgccgac tgaccattgg ctccaatttg tctataagga ttgcagccta taaatcgatt      240
ctacaggaga gagttaaaaa gacttggaca gttgtggatg caaaaaccct aaaaaaagaa      300
gatatacaaa aagaaacagt ttattgctta aatgatgatg atgaaactga gtttttaaaa      360
gaggatatta ttcaagggtt ccgctatgga agtgatatag ttcctttctc taaagtggat      420
gaggaacaaa tgaaatataa atcggagggg aagtgcttct ctgttttggg attttgtaaa      480
tcttctcagg gtcagagaag attcttcatg ggaaatcaag ttctaaaggc tttgccccaa      540
gagatgatga ggcag                                                     555
```

<210> 381
<211> 406
<212> DNA
<213> Homo sapien

<400> 381

```
ctgcaccagg tgggcctcta ggtcccatta agcccattgg tccagggcca agtccaactc    60
cttttccatc atactgagca gcaaagttcc caccgagacc aggggggcca ggaggaccag   120
gtggaccagg agggcctgtg ggaccatctt caccatctct gcctgggggg cctggtggac   180
ccctttctcc acgtggtcct ctatctccgg ctgggccctt tcttacagtt tcctcttgta   240
aagattggca tgttgctagg cataaggtta ctgcaagcag caacaaagtc cgcgtatcca   300
caaagctgag catgtctagc acttagacat gcagactcct tgtgtcgcag agccctggg    360
tcaccggcgg aggtatcacc tggcgggcgc gggcatgcag tcgtgg               406
```

<210> 382
<211> 528
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(528)
<223> n = A,T,C or G

<400> 382

```
ctgagcagtt tgtgggtntn tcttcccgca agtttcagga agtattcaca aaagaaaaat    60
acattttttc ccccaggggt ggggcaagga cagtggagag agtgctagga aatgagtccc   120
ctgggaaagg ggaccgggcc gtgatgttaa atatctccgg ctcccaagtg actggatttg   180
cctaggacct tcagaccaac agacttcaga ccctcagacc tgccccgggg ccaggtggag   240
aaagtgaggg ccgtacaagg aagtgaaatt ctgagttgtt ggggctaagc ctgaccccct   300
ctccatgctc cccgccccaa cccactctgg cctcagtaga ttttttttc agttgtggtt   360
gttgcccagg ctggagtgca gtagcgccat cttggctcac tgcacctcca ccttccgggc   420
tcaagcgatt ctccagcctc agcctcctga gtagctagga ctgcaggtgc tccaccacgc   480
ccggctaatt tttgtatttt tagtagagat ggggtttccc catgttgg            528
```

<210> 383
<211> 335
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(335)
<223> n = A,T,C or G

<400> 383

```
ccatnttgag tctactcctg cgtcttgtgc cctagcaccc cgagaaccgt cagtttgagc    60
cagatggaag ctgagctgaa cacattacga tggatgatgg aaacataaga ctatcaagaa   120
atccaagtgg taatgggcga agtttattca gcatccggca atggacttat cgtagttggg   180
gaaacgggtg ttccgaataa tatcctggaa gttatcagga cacctatttt aaatataggc   240
ctgaattttg taaagtaata tttaaggtgg tccgtgataa ttaaataaaa tgcttaattc   300
atgtggcgaa aaaaaaaaa naaaaaaaaa aaaaa                          335
```

<210> 384

<211> 333
<212> DNA
<213> Homo sapien

<400> 384
agtccaatac ggctattggg gttgtagcag ctttcagagg aaattagtgg tctgggcttg   60
cctccagctc cccaggggca gccccagtag ctacactgtc cagacagcac aagaccaggc   120
tggtgtcacg tccatccgag cgctgcctca gggatcgata aagtttcact gcagaaagtc   180
tccactgcgg tatgctgaca tctgccctga accttcaccc tacagcatta caggctttaa   240
tcagattctg ctggaaagac acaggctgat ccacgtgacc tcttctgcct tcactgggct   300
ggggtgatcc ttggtgcctt tgtttccaca agg   333

<210> 385
<211> 343
<212> DNA
<213> Homo sapien

<400> 385
ctgtgacacc tcaggttgaa agggtcttcc tccttgaaca cccaccgagg ggcctggagc   60
aacagccagc cgatatggac ttctagctgc accgggtcac tgagggtgga gaggtttgtc   120
tggcacctgt actctccact gtcgtcgact gtggcagcgt caatgaagta gctcgaggcc   180
tggcttgaga tgaggctctc attgtgaaac cactgtgtgg aattgtcctc aggggagtag   240
gctccctggc acttcagagt cacactgtcc ttctcgagca ccctgtacca ttgaggctcc   300
aggaacacca cagcctttgg gagatcttca gtccgcatgc caa   343

<210> 386
<211> 244
<212> DNA
<213> Homo sapien

<400> 386
tattctttga ttcttggcaa ataggtgaga gaactaatag caaccaggca actgaggacg   60
aagtcaaaaa gtcggtaaca gaagaatgga atcagccaac ccacttgata agaaattgct   120
ccataaacca gcattgaact gattataaac ataagaacag agacggcaaa aagaacacag   180
gcattatcag ccattctctc agacgaatag taattaccga tgacttcata ctgaatgttg   240
acag   244

<210> 387
<211> 504
<212> DNA
<213> Homo sapien

<400> 387
atctggagtc cagcctcagg gatgcgctac tttccattct ctgcattgaa cattcgttct   60
gtcagcatcc gctccagctt cactgcatca gcggcaaact tgcggatccc gtcagagagc   120
ttctccacag ccatctggtc ctcgttgtgc aaccaacgga aagacttctc atccaggtgg   180
atttttccca ggtcactggc ttgggccgcc ttggctgaga gcacaggcac cagcttggcg   240
ttgtcctgca gcagctctcc caggagcttg ggtgggatgg tgaggaagtc acagccggcc   300
agtgctttga tctcgcccgt gttgcggaag gaggcgccca tgacaatggt tttgtagcta   360
aacttcttgt agtagttgta gattttagtg acactcttta ccccagggtc ttccaggggc   420
tcataggatt tcttgtcggt gtttgccaca tgccaatcaa ggatgcgccc aacaaatggg   480
gagatgaggg tcacacccgc ctcg   504

<210> 388

```
<211> 450
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(450)
<223> n = A,T,C or G

<400> 388
gccaaagtgc tgcntgaatt ccactccctt ggttttcgcc tgcccagcgt tgctgtttgc      60
gtggagggtg gggggagctc agtggcaggg aatcagcggt ccgtggggtc gtggggacgg     120
gaacatgtgc ccgaccgctc catcccctcc tcctccttag gatgcataac ctaccttgtc     180
ttttttttt taaattttnt ttccaggtan agtagctntt tgtacataaa naatacttga     240
aaaattaatt gtatgatgta tgaaaanaca nagtctccta gttttgtatn ttgttgtatg     300
actgccatga gttccaccaa aaagccactn tattttggtc tntgtgacat tttaaatgcg     360
tgacaaaagt gagcaaataa agngaggaan aaatntatnt atganataat atanattgta     420
ttgaaatcta aaaaaaaaaa aaaaaaaaa                                       450


<210> 389
<211> 297
<212> DNA
<213> Homo sapien

<400> 389
cctgcacttg aacatggctt tggttttaag caacttctct accctgaccc tcctcctggg      60
acagcgtttc gggaggtttc ttggcctcac tgagagggat gtggagctgc tgtaccccgt     120
caaggagaag gtattctaca gcctgatgag ggagagcggc tacatgcaca tccagtgcac     180
caagcctgac accgtaggct ctgctctgaa tgactctcct gtgggtctgg ctgcctatat     240
tctagagaag ttttccacct ggaccaatac ggaattccga tacctggagg atggagg       297


<210> 390
<211> 223
<212> DNA
<213> Homo sapien

<400> 390
ctgggctgga gagttggtgc tggcaaaaca gtccttcccc tggggccggt tcttacccag      60
gtccagagaa accaacgcgg gatgtcagac ttcaccaaaa ggactttctg gttgcccctg     120
gctggcttcc tggaggcgtt cgcctctagt ttctcaggga tggagcgaga gcccagccag     180
agaacagtaa gaggagctgc tctcctatct gcactcaccc agg                      223


<210> 391
<211> 365
<212> DNA
<213> Homo sapien

<400> 391
ctgaggaaga aatgaaaaaa gaccctgtcc ctcatggccc gcccactggc ctcctgtgaa      60
ctctgtcctg ttgccaaccc cagatgaagt cagccaaaaa gtgctttcca catcctctct     120
ctggggctgc ccagcctgac cgtaggggat ccactggcag agccaaggtg gatgctggtg     180
cctgaagctg gaagccagca ggacatgaga ccctcctgt agcaggaagt ggttctagaa     240
ctcccagcag aacagaacgg aaaaggagct gattggggat agaatgagtt ctgctaaaca     300
gccagatgct ctgagagagg tgacactgga ctgtctcgga ggtgtgtgca gatggctaca     360
```

ggtgg   365

        `<210> 392`
        `<211> 302`
        `<212> DNA`
        `<213> Homo sapien`

        `<220>`
        `<221> misc_feature`
        `<222> (1)...(302)`
        `<223> n = A,T,C or G`

        `<400> 392`
```
ccaagagcta caatgagcag cgcatcanga cagaacgtgc aggtttttga gttccagttg    60
actgcagagg acatgaaagc catagatggc ctagacagaa atctccacta ttttaacagt   120
gatagttttg ctagccaccc taattatcca tattcagatg aatattaaca tggagagctt   180
tgcctgatgt ctaccagaag ccctgtgtgt ggatggtgac gcagaggacg tctctatgcc   240
ggtgactgga catatcacct ctacttaaat ccgtcctgtt tagcgacttc agtcaactac   300
ag                                                                  302
```

        `<210> 393`
        `<211> 213`
        `<212> DNA`
        `<213> Homo sapien`

        `<220>`
        `<221> misc_feature`
        `<222> (1)...(213)`
        `<223> n = A,T,C or G`

        `<400> 393`
```
ccaataatca agnacaaana ctggatttga ggatggatca gttctgaaac agtttctttc    60
tgaaacagag aaaatgtccc ctgaagacag agcaaaatgc tttggaaaga atgaggccat   120
acaggcagcc catgatgccg tggcacagga aggccaatgt cgggtagatg acaaggtgaa   180
tttccatttt attctgttta acaacgtgga tgg                                213
```

        `<210> 394`
        `<211> 334`
        `<212> DNA`
        `<213> Homo sapien`

        `<400> 394`
```
cctacccata atccagagag gcttgcccag aggaggacta cgtgggggac gtgccaccag    60
aaccctactt gggggcggga tgtcactccg aggtcaaaac ctgctccgag gtggacgagc   120
cgtagctccc cgaatgggct taagaagagg tggtgttcga ggtcgtggag gtcctgggag   180
agggggccta gggcgtggag ctatgggtcg tggcggaatc ggtggtagag gtcggggtat   240
gataggtcgg ggaagagggg gctttggagg ccgaggccga ggccgtggac gagggagagg   300
tgcccttgct cgccctgtat tgaccaagga gcag                               334
```

        `<210> 395`
        `<211> 174`
        `<212> DNA`
        `<213> Homo sapien`

```
       <400> 395
ccagatgagg aaaaaaatta ggaaggagat gaagttttcc aaatttcatg gtatatgctg      60
cacttcccca accttcactc tccatgtagc ctactgggtc tactattcca caaagtggct     120
caacctccaa atgacctctg gtttacccct attaaaatcc caaaggactt tcag           174


       <210> 396
       <211> 140
       <212> DNA
       <213> Homo sapien


       <220>
       <221> misc_feature
       <222> (1)...(140)
       <223> n = A,T,C or G


       <400> 396
ctgcaaagcc ttgtgtaacn ttctccagca tttggaccca gtacgtgaaa gcccacaaca      60
cgttcattgt ctttagtatt acagattatt tttgcataac atttgttgtt atctcttgac     120
ggaatcgtcc attccaatgg                                                 140


       <210> 397
       <211> 318
       <212> DNA
       <213> Homo sapien


       <400> 397
cctcgcctgg agggcccccg ggcagcacag ggaggacgag cttgtccagc agagggtctg      60
gcagagggtc ccgcagaggt ttgggcaggg ggtctgacat ccctggctcc tgctctggct     120
ctggctgccg ggatttgcac aggcccaggt gcatacagat gccgtttgag tcagtctggt     180
tctggaagta gtcgatgacc agggggaagt agtcgtcaag cacttggttg cactggggca     240
tgagcagctt caaggggagg acgttgcact cctgctccag gaacttcctc atcgtgtcct     300
ggaaaatggc ctccttgg                                                  318


       <210> 398
       <211> 517
       <212> DNA
       <213> Homo sapien


       <220>
       <221> misc_feature
       <222> (1)...(517)
       <223> n = A,T,C or G


       <400> 398
ccttncttcg ccatccattc atcgaccctc tccagcactt gctgcaggct tggctgacca      60
tccaccatgg cttgaataat cccggtgagc tctgtacaga atggggtaag ctgtggatgg     120
actacaggct ggacatacat gtgaaaggta gactcaatct ccatggtccg gccatttagc     180
tttaggatgg ggaactcgat gatttcctga ggatgaatct gtggcttgtc gcacgtggcc     240
tcaaagtcca gcactaaaaa gtagtgatac ctctggagag ggaaggacac cattgccgcc     300
atggatgcgc caaagccgtg ggccgccagc tttctggtgg atatggagca gaactccgga     360
acaccacagg gagaaaataa gtgggagccc agcacttttc ttgctcttga aagtaaatac     420
gaagaaaatc gagctgctcc agtctgtaaa ggtgctagca ttgaacatcc agaagcatct     480
aaaactctcc ttacttcgaa gatgccaaga ccggcag                            517
```

```
<210> 399
<211> 329
<212> DNA
<213> Homo sapien

<400> 399
ccaacctcag gcaacgggtg gagcagtttg ccagggcctt ccccatgcct ggttttgatg      60
agcattgaag gcacctggga aatgaggccc acagactcaa agttactctc cttcccccta     120
cctgggccag tgaaatagaa agcctttcta tttttggtg cgggagggaa gacctctcac      180
ttagggcaag agccaggtat agtctccctt cccagaattt gtaactgaga agatcttttc     240
tttttccttt tttcggtaac aagacttaga aggagggccc aggcactttc tgtttgaacc     300
cctgtcatga tcacagtgtc agagacgcg                                        329


<210> 400
<211> 451
<212> DNA
<213> Homo sapien

<400> 400
ctggcttcac tgctcaggtg attatcctga accatccagg ccaaataagc gccggctatg      60
cccctgtatt ggattgccac acggctcaca ttgcatgcaa gtttgctgag ctgaaggaaa     120
agattgatcg ccgttctggt aaaaagctgg aagatggccc taaattcttg aagtctggtg     180
atgctgccat tgttgatatg gttcctggca agcccatgtg tgttgagagc ttctcagact     240
atccaccttt gggtcgcttt gctgttcgtg atatgagaca gacagttgcg gtgggtgtca     300
tcaaagcagt ggacaagaag ctgctggagc tggcaaggtc accaagtctg cccagaaagc     360
tcagaagcta aatgaatatt atccctaata cctgccaccc cactcttaat cagtggtgga     420
agaacggctc agaactgttt gtttcaattg g                                     451


<210> 401
<211> 180
<212> DNA
<213> Homo sapien

<400> 401
ccaggaagca ggccagggga ttggcagcac tgcccagcac cacagccagg tggtaggcca      60
gacgcccgta gggtaagcag gaaaagctct gcacggcagg cagcacgcca ttggtcagcg     120
cgttggtggc ggccaacagg cccagcaggc aggcactgcg ggctgataga agctgatagg     180


<210> 402
<211> 385
<212> DNA
<213> Homo sapien

<400> 402
ccaggccacc tgtgcggggc tcctcgatgt ggaaggttcg ggtgaggaga ttgtagaagg      60
agccgtagca cacggccacc acagtgcacg tgaggcagat cacgttgtag ggcatgctga     120
agtccggtgt cggcaggttc accagcagcg gctccgtgta gagccgcaca aagtagttag     180
agccatcaga gactgggaac aggctgttga agaggggact ctcttcccag tccactggct     240
tggctgctac catgctgggc acaagggcgc tgaggacaga tgggctgaca tagaagccat     300
ggttaggatc tggcgtgtac tcggtccact tcagcagcgc ccgctcaaac tggatggaaa     360
ccttggtgac tgagttggcc ggcag                                            385


<210> 403
<211> 440
```

```
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(440)
        <223> n = A,T,C or G

        <400> 403
ctgtttaacc agnaacccgg ggggtcaccc cccacagaat gtacatgaaa cactagagga      60
ctgcatgttt ttccctgaga gaagcgtaag acaaacagaa gtcaaaaagt agtcactggg     120
agcgccatcc ttctaagcaa atcctccctt tccttttgg aggatttgcc cgaactacgt      180
agccagtcag cacttagacc acctgcctcc tcccccccct ataaacccac cactcccctc     240
ctcctttccc aaaccacttg gggtgtccta agccctcact gccccaagcc caaaatatca     300
gctaagatcc ttgtcagtat ttccacagtc atacctaatg aattgggaag tggggcccct     360
aaaaaccaat tcacatctat gcacttgttt ccactggatt tggcagacag gctttttag     420
ttaccgtaac cagatcttaa                                                 440


        <210> 404
        <211> 239
        <212> DNA
        <213> Homo sapien

        <400> 404
cctacgaaaa actcccggcc ggtgaagaga acgtcagtgc catccagcgt cgcgttctcg      60
tctcctattt ccacaattcg gagccccagg tcttgcaggg ctttgcggac tccatcgacc     120
tctggcctac gagcggggct ccagggccgc gtgattaggg ccgtgtcccc ttggatcacg     180
gccgtgtcgc caagcagcgg tcccagcggc aatgactcct caggtggcag ttctagcag     239


        <210> 405
        <211> 261
        <212> DNA
        <213> Homo sapien

        <400> 405
ctggagaggc agcccttcac cggatgccca gctccgtgcc cctgcgggcc ccagcacagt      60
ttaccttctc cccccacggc ggtcccatct actctgtgag ctgttccccc ttccacagga     120
atctcttcct gagcgctggg actgacgggc atgtccacct gtactccatg ctgcaggccc     180
ctcccttgac ttcgctgcag ctctccctca agtatctgtt tgctgtgcgc tggtccccag     240
tgcggccctt ggttttttgca g                                              261


        <210> 406
        <211> 641
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(641)
        <223> n = A,T,C or G

        <400> 406
ctgctcccgg gcntggtggc agcaagtaga catcgggcct gtgcagggcc accccccttgg     60
gccgggagat ggtctgcttc agtggcgagg gcaggtctgt gtgggtcacg gtgcacgtga    120
```

```
acctctcccc ggaattccag tcatcctcgc agatgctggc ctcacccacg gcgctgaaag      180
tggcattggg gtggctctcg gagatgttgg tgtgggtttt cacagcttcg ccattctggc      240
gggtccagga gatggtcacg ctgtcatagg tggtcaggtc tgtgaccagg caggtcaact      300
tggtggactt ggtgaggaag atgctggcaa aggatggggg gatggcgaag acccggatgg      360
ctgtgtcttg atcggggaca cacatggagg acgcattctg ctggaaggtc aggcccctgt      420
gatccacgcg gcaggtgaac atgctctggc tgagccagtc gctctctttg atggtcagtg      480
tgctggtcac cttgtaggtc gtgggcccag actctttggc ctcagcctgc acctggtccg      540
tggtgacgcc agaccccacc tgcttcccct cgcgcagcca ggacacctga atctgccggg      600
gactgaaacc cgtggcctgg cagatgagct tggacttgcg g                         641
```

        <210> 407
        <211> 173
        <212> DNA
        <213> Homo sapien

        <400> 407

```
ccaggtactg gcacaatcat gtctggatgg gggtggtggt gtcctgtagg cagagaaaca       60
ggaaattgtc gtagtcagta tcgagcagcg tggcctcgtt cgccaccgta tagttgatct      120
tgaacttctt tggattctca gtcttctctc caaggacctt cttctcaaca cag            173
```

        <210> 408
        <211> 165
        <212> DNA
        <213> Homo sapien

        <400> 408

```
ccactgtctg cagccatggc agaaagtgct caaagtccag caccttcaca ttcatctcat       60
cactcttggg gttccccagg accttgagca cctcggcgtt ggtagggttc tggcccaggg      120
ccctcatcac atccccacac tggctgtaca ggatcttgcc atcac                     165
```

        <210> 409
        <211> 329
        <212> DNA
        <213> Homo sapien

        <400> 409

```
ctgtagcttc tgtgggactt ccactgctca ggcgtcaggc tcagatagct gctggccgcg       60
tacttgttgt tgctttgttt ggagggtgtg gtggtctcca ctcccgcctt gacggggctg      120
ctatctgcct tccaggccac tgtcacggct cccgggtaga agtcacctat gagacacacc      180
agtgtggcct tgttggcttg aagctcctca gaggagggcg ggaacagagt gaccgagggg      240
gcagccttgg gctgaccaag gacggtcagc ttggtccctc cgccaaatac cgccggataa      300
gcaccactgt tgtctgctga ttgacagaa                                       329
```

        <210> 410
        <211> 235
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(235)
        <223> n = A,T,C or G

        <400> 410

```
ccatcagnga gaaaggtgtt tgtcagttgt ttcacaaacc agattgagga ggacaaactg     60
ctctgccaat ttctggattt ctttattttc agcaaacact ttctttaaag cttgactgtg    120
tgggcactca tccaagtgat gaataatcat caagggtttg ttgcttgtct tggatttata    180
tagagctttt tcatatgtct gagtccagat gagttggtca ccccaacctc tggag         235
```

```
        <210> 411
        <211> 294
        <212> DNA
        <213> Homo sapien


        <400> 411
aattaaggga agatgaagat gataaaacag ttttggatct tgctgtggtt ttgtttgaaa     60
cagcaacgct tcggtcaggg tatcttttac cagacactaa agcatatgga gatagaatag    120
aaagaatgct tcgcctcagt ttgaacattg accctgatgc aaaggtggaa gaagagcctg    180
aagaagaacc tgaagagaca gcagaagaca caacagaaga cacagagcaa gacgaagatg    240
aagaaatgga tgtgggaaca gatgaagaag aagaaacagc aaaggaatct acag          294
```

```
        <210> 412
        <211> 433
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(433)
        <223> n = A,T,C or G


        <400> 412
cctgagaagc cagaggcagg tggagagggg gtggaaagtg agcagcgggc tgggctggag     60
ccgcacacgc tctcctccca tgttaaatag cacctttaga aaaattcaca agtccccatc    120
cacaaaaaaa aaaanaanaa aaatttcagg gantaaaaat anactttgaa caaaaaggaa    180
catttgntgg cctggggggg catctnantt tntntagcnc cagngattcc ctccccnccc    240
cacccatcac atanatgtaa cacctttggt ntaaaatggg gagccgtttc caccntgccc    300
ccntccccgc ccccaggcag ttgccccggn gacacntcaa gacaggancg aggtagtntt    360
tcancancac agttncacaa ggaacagaac agtntctccc gcccagccct gcggcacaag    420
ggattgacac gcn                                                       433
```

```
        <210> 413
        <211> 494
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(494)
        <223> n = A,T,C or G


        <400> 413
ccttatttct cttgtcnctt cgtacaggga ggaatttgaa gtagatagaa accgacctgg     60
attactccgg tctgaactca gatcacgtag gactttaatc gttgaacaaa cgaacccttta   120
atagcggctg caccatcggg atgtcctgat ccaacatcga ggtcgtaaac cctattgttg    180
atatggactc tagaatagga ttgcgctgtt atccctaggg taacttgttc cgttggtcaa    240
gttattggat caattgagta tagtagttcg ctttgactgg tgaagtctta gcatgtactg    300
ctcggaggtt gggttctgct ccgaggtcgc cccaaccgaa atttttaatg caggtttggt    360
```

agtttaggac ctgtgggttt gttaggtact gtttgcatta ataaattaaa gctccatagg   420
gtcttctcgt cttgctgtgt tatgcccgcc tcttcacggg caggtcaatt tcactggtta   480
aaagtaagag acag   494

        <210> 414
        <211> 294
        <212> DNA
        <213> Homo sapien

        <400> 414
ctgggcggat agcaccgggc atattttgga atggatgagg tctggcaccc tgagcagtcc   60
agcgaggact tggtcttagt tgagcaattt ggctaggagg atagtatgca gcacggttct   120
gagtctgtgg gatagctgcc atgaagtaac ctgaaggagg tgctggctgg taggggttga   180
ttacagggtt gggaacagct cgtacacctg ccattctctg catatactgg ttagtgaggt   240
gagcctggcg ctcttctttg cgctgagcta aagctacata caatggcctt gtgg   294

        <210> 415
        <211> 421
        <212> DNA
        <213> Homo sapien

        <400> 415
ccttgcccct gccctcccac gaatggttaa tatatatgta gatatatatt ttagcagtga   60
cattcccaga gagcccccaga gctctcaagc tcctttctgt cagggtgggg ggttcagcct   120
gtcctgtcac ctctgaggtg cctgctggca tcctctcccc catgcttact aatacattcc   180
cttccccata gccatcaaaa ctggaccaac tggcctcttc ctttcccctg ggaccaaaat   240
ttaggggcct cagtccctca ccgccatgcc ctggcctatt ctgtctctcc ttcttccccc   300
tggcctgttc tgtctctgag ctctgtgtcc tccgttcatt ccatggctgg gagtcactga   360
tgctgcctct gccttctgat gctggactgg ccttgcttct acaagtatgc ttctcccaca   420
g   421

        <210> 416
        <211> 342
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(342)
        <223> n = A,T,C or G

        <400> 416
ccactttctt tcccacnctg gaaggcggca tctatgactt cattggggag ttcatgaagg   60
ccagcgtgga tgtggcagac ctgataggtc taaaccttgt catgtcccgg aatgccggca   120
agggagagta caagatcatg gttgctgccc tgggctgggc cactgctgag cttattatgt   180
cccgctgcac tcccctatgg gtcggagccc ggggcattga gtttgactgg aagtacatcc   240
agatgagcat agactccaac atcagtctgg tccattacat cgtcgcgtct gctcaggtct   300
ggatgataac acgctatgat ctgtaccaca ccttccggcc gg   342

        <210> 417
        <211> 389
        <212> DNA
        <213> Homo sapien

```
        <400> 417
tattaattag gttcttaaga catttagaac accaatttgt gaggataaat tccattcgtc      60
agagcaaaca cagatcgcag gtagccctgg agctgaggaa tagctttgat ttttggtaaa     120
atttgtgagt ccacagcttt ctgatcaatc ttgcgctgct ccgtaatctc atatttctct     180
ttttctgtgt cgaagatctc accttcctgg tgtctgggct tccgcagctt cttcttcttg     240
aagtaagcat cagtaagatg ttttgggatt tttacattgc tgatatcgat tttggttgaa     300
gtggcaatga caaatttctg gtgtgttctt cgtagaggaa ctcgattgag gaccagaggt     360
ccagtcacaa gtaataagcc actagccag                                       389


        <210> 418
        <211> 343
        <212> DNA
        <213> Homo sapien


        <400> 418
gtgggaggga gccaggttgg gatggaggga gtttacagga agcagacagg gccaacgtcg      60
aagccgaatt cctggtctgg ggcaccaacg tccaaggg/gg ccacatcgat gatgggcagg     120
cgggaggtct tggtggtttt gtattcaatc actgtcttgc cccaggctcc ggtgtgactc     180
gtgcagccat cgacagtgac gctgtaggtg aagcggctgt tgccctcggc gcggatctcg     240
atctcgttgg agccctggag gagcagggcc ttcttgaggt tgccagtctg ctggtccatg     300
taggccacgc tgttttttgca gtggtaggtg atgttctggg agg                      343


        <210> 419
        <211> 255
        <212> DNA
        <213> Homo sapien


        <400> 419
cctagcaaga gaatcaccaa atttatggag agttaacagg ggtttaacag gaaggaagtg      60
cctttagtaa gttctcaagc cagaggctgg aggcagcagc taaatcagag gacagcatcc     120
tcagtgaaag tgagccattc ggggtggcat gtcactccag gaataaacac aacttagaaa     180
caaatgattt cgtaggatag cacagtgaca tggtgcactg tgaacctgag gccactgtgt     240
caaactgtgc actgg                                                      255


        <210> 420
        <211> 261
        <212> DNA
        <213> Homo sapien


        <400> 420
cttctgatga taaccaaccc ctagctacca ctctgtattc atcaggggag gggtataaac      60
cccacatgca agaagaaccc ttgcccccag tgtcaaatgg gatggggatg ctagagttat     120
agtaaagggg aaaccctatg taagctgtta acagagttca caggggtagg gataaccct      180
gttctccagc tcccaaatgt gctcactttc ccagcttctt catccgttca tcaatgctgg     240
caaagttccc ctcaactgtg g                                               261


        <210> 421
        <211> 179
        <212> DNA
        <213> Homo sapien


        <400> 421
ccttcctgtt gttgtttcaa atgctgcttg atttctcgta acagatctgc atctatgtaa      60
tacctttctt cagatctgac tgctccaaaa tgattctgca tcctgatttg agacatcaat     120
```

```
tcatttagtc ggcccttgaa ctgagtaggt gcatttagtt caccctgaat cgtatccag        179
```

```
        <210> 422
        <211> 424
        <212> DNA
        <213> Homo sapien

        <400> 422
cgaggtccaa atctgatctg cagatgcaga agattcgaca gaagctgcag actaaacagg         60
ctgccatgga gaggtctgga aaagctaagc aactgcgagc acttaggaaa tacgggaaga        120
aggtgcaaac ggaggttctt cagaagaggc agcaggagaa agcccatatg atgaatgcta        180
ttaagaaata tcagaaaggc ttctctgata aactggattt ccttgaggga gatcagaaac        240
ctctggcaca gcacaagaag gcaggagcca aaggccagca gatgaggaag gggcccagtg        300
ctaaacgacg gtataaaaac cagaagtttg gttttggtgg aaagaagaaa ggctcaaagt        360
ggaacactcg ggagagctat gatgatgtat ctagcttccg ggccaagaca gctcatggca        420
gagg                                                                     424

        <210> 423
        <211> 256
        <212> DNA
        <213> Homo sapien

        <400> 423
ctgtggccta gggctacctc aagactcacc tcatccttac cgcacattta aggcgccatt         60
gcttttggga gactggaaaa gggaaggtga ctgaaggctg tcaggattct tcaaggagaa        120
tgaatactgg gaatcaagac aagactatac cttatccata ggcgcaggtg cacaggggga        180
ggccataaag atcaaacatg catggatggg tcctcacgca gacacaccca cagaaggaca        240
ctagcctgtg cacgcg                                                        256

        <210> 424
        <211> 330
        <212> DNA
        <213> Homo sapien

        <400> 424
ccagccgcat gggagtggag gcagtcatcg ccttgctaga ggccacccccg gacaccccag         60
cttgcgtcgt gtcactgaac gggaaccacg ccgtgcgcct gccgctgatg gagtgcgtgc        120
agatgactca ggatgtgcag aaggcgatgg acgagaggag atttcaagat gcggttcgac        180
tccgagggag gagctttgcg ggcaacctga cacctacaa gcgacttgcc atcaagctgc         240
cggatgatca gatcccaaag accaattgca acgtagctgt catcaacgtg ggggcacccg        300
cggctgggat gaacgcggcc gtacgctcag                                         330

        <210> 425
        <211> 333
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(333)
        <223> n = A,T,C or G

        <400> 425
ctgctccatg gnctcaaagt cagcaccacc cacacccaca atgatcactg acatgggcag         60
```

```
gttcgaggca cgcaccacag cctcacgtgt ggcttccaca tccgtcacag caccatcagt      120
cagnagaaac agnatgaagt attgngaggc antcccctga tgtgcagcct gggctgcaaa      180
cctggacctg cccgggcggc cgctcgaaag ggcgaattcc agcacactgg cggccgttac      240
tagnggatnc aganctcggt acnaagcttg gcagtaatca tggtcatagc tgtttcctgt      300
gagcggntgg gatgaacgcg gccgtacgct cat                                  333
```

        <210> 426
        <211> 411
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(411)
        <223> n = A,T,C or G

        <400> 426
```
gggtgttcat catgaggatt gcttctgcca tggagctgat ggacgtgggc aggttgctga       60
gaaggtgggg tggaagtgag tgccggggt gggtgagtgc cctggtcttg ttcataggggg      120
agcctttccc tagcagtgga acgctgtggt cattttctct agcatattcc cttgggaagt      180
ctagatttgc tattaatctg gctgagaatc taagttctgt gccttagaga cagtttgcac      240
tttcccatat tgtgcctggg acagccatat gatttttttt cccaccaaac aagtatgcaa      300
acagaaacca gttcaaaggg ggatggtgta aaagatgagg cagtanaaat gcctttgaat      360
ggttttctgt agctaattct ctttaaattt tgtcctgctt tttttcttta t              411
```

        <210> 427
        <211> 450
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(450)
        <223> n = A,T,C or G

        <400> 427
```
acgtgtacaa gtttgaactg gatacctctg aaagaaagat tgaatttgac tctgcctctg       60
gcacctacac tctctactta atcattggag atgccacttt gaagaaccca atcctctgga      120
atgtggctga tgtggncatc aagttccctg aggaagaagc tccctcgact gtcttgtccc      180
agaacctttt cactccaaaa caggaaattc agcacctgtt ccgcgagcct gagaagaggc      240
cccccaccgt ggtgtccaat acattcactg ccctgatcct ctcgccgttg cttctgctct      300
tcgctctgtg gatccggatt ggtgccaatg tctccaactt cacttttgct cctagcacga      360
ttatatttca cctgggacat gctgctatgc tgggactcat gtatgtctac tggactcagc      420
tcaacatgtt ccagaccttg aagtacctgg                                      450
```

        <210> 428
        <211> 377
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(377)
        <223> n = A,T,C or G

```
<400> 428
cagggctata gtgcgctatg ttgatctggt gttcatgcta agttccgcat caatatggtg      60
acttcttggg agtgggggac caccaggttg cctaaggagg ggtgaacctg cctacgttgg     120
aaatagagct ggncaaaact cctgtgctca tcagtagtag aattgcacct gtgaatagcc     180
nccgccctcc agcatgggca acataacaag accctgcctc ttaaagataa aaattggaaa     240
acactngtag gaaaaaaagg gtgnttggtc taaataaatn tggattgggn ataaatgacn     300
caaaactatc atgaatttga aagcntttct aatttcttga aagtctgaaa aaagttaaan     360
cncaatttta tctnaaa                                                    377


<210> 429
<211> 206
<212> DNA
<213> Homo sapien


<400> 429
gttgctcctc caaagaaggt tggcttcaag gccgtgtcca gggacccacg agcagaggca      60
ctggggggca agggatctcc aaggggggcaa gggatcccta aaggggggtag ctcacaggtg    120
agggggttta gggcccctct agggagcgcc tgaggccata cattcaagag tgtccctggt     180
gaggcccagg gaagagccag gactgg                                          206


<210> 430
<211> 473
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(473)
<223> n = A,T,C or G


<400> 430
ccttatttnt cttgtccttt cgtacaggga ggaatttgaa gtagatagaa accgacctgg      60
attactccgg tctgaactca gatcacgtag gactttaatc gttgaacaaa cgaacctttа     120
atagcggctg caccatcggg atgtcctgat ccaacatcga ggtcgtaaac cctattgttg     180
atatggactc tagaatagga ttgcgctgtt atccctaggg taacttgttc cgttggtcaa     240
gttattggat caattgagta tagtagttcg ctttgactgg tgaagtctta gcatgtactg     300
ctcggaggtt gggttctgct ccgaggtcnc cccanccgaa atttttaatg caggtttggt     360
agntnaggac ctgtgggttt gttaggtact gggtgcatta ataaattaaa gctccatagg     420
gtcttctcgt cttgctgtgt tatgcccncc tcttcacggg caggtcaatt tca            473


<210> 431
<211> 215
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(215)
<223> n = A,T,C or G


<400> 431
cctgtatnaa gctanaaaaa gactaccagc ccgggatcac cttcatcgtg gtgcagaaga      60
ggcaccacac ccggctcttc tgcactgaca agaacgagcg ggttgggaaa agtggaaaca     120
```

```
ttccagcagg cacgactgtg gacacgaaaa tcacccaccc caccgagttc gacttctacc        180
tgtgtagtca cgctggcatc caggggacaa gcagg                                   215
```

```
        <400> 432
ccagcactgc cacaaacttt ttcagggcca ccaggcgctg cccttccagg accgggaacc         60
tgcccacttc tatccgcagg atgtagtgca gtgcagattc caggtcagcc atgtagatcc        120
tggagcgatc tgccaatttc caaacagtgg gagctatctt gttagcagtg gttggtgcaa        180
ctgtggtctg ggcagcctcc ctggtgagcc cagagagtct ctgcaggtaa gcggtataga        240
aggacctgga ttccatgagc acggggactc gggagacgga gccattccgg aacagcaggt        300
agcaagaggg gaagtcggtg acaccaaact ttctcaccac attggcctct gtgttcagca        360
ccctgcgcac cgccacncct ttgtgctggg a                                       391
```

```
        <400> 433
ctgtagcttc tgtgggactt ccactgctca ggcgtcaggc tcagatagct gctggctgcg         60
tacttgttgt tgctttgttt ggagggtgtg gtggtctcca ctcccgcctt gacggggctg        120
ctatctgcct tccaggccac tgtcacggct cccgggtaga agtcacttat gagacacacc        180
agtgtggcct tgttggcttg aagctcctca gaggagggcg ggaacagagt gaccgagggg        240
gcagccttgg gctgacgtag gacggttagt ttggncccctc cgccgaatgc cgcanttcta       300
ctgtcccaca cctgacagta atagtcancc tcatcttcgg cttgggctct gctgatggtc        360
agggtggccc gtgntccccg agttggagcc agggaatcnc tcagggatcc canagggccn        420
```

```
        <400> 434
ccaaccanga gagaagggat cgcctggtgc ccagggccca ccaggagctc caggcccact         60
tgggattgct gggatcactg gagcacgggg tcttgcagga ccaccaggca tgccaggtcc        120
```

```
tagggggaagc cctggccctc agggtgtcaa gggtgaaagt gggaaaccag gagctaacgg    180
tctcagtgga gaacgtggnc cccctggacc ccagggtctt cctggtctgg ctggtncag      239
```

```
        <210> 435
        <211> 415
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(415)
        <223> n = A,T,C or G

        <400> 435
ctgtccaatg gcaacaggac cctcactcta ttcaatgtca caagaaatga cgcaagagcc    60
tatgtatgtg gaatccanaa ctcagtgagt gcaaaccgca gtgacccagt caccctggat   120
gtcctctatg ggccggacac ccccatcatt tcccccccag actcgtctta cctttcggga   180
gcaaacctca acctctcctg ccactcggcc tctaacccat ccccncanta ttcttggcgt   240
atcaatggga taccgcagca acacacacaa gttctntttta tcgccaaaat cacgccaaat   300
aataacggga cctatgcctg tttagggntn taacttggnt actggccgca anaattccat   360
agtcaagagc atcacagnct ctgcatntgg aacttctcct ggctntcaga cctgn        415
```

```
        <210> 436
        <211> 152
        <212> DNA
        <213> Homo sapien

        <400> 436
ccaggattga caggccatcc attcacagcc aggagatgct gggccagtcc ctccaagagg    60
tctccgtcat ggcagtgatg aaaacctaac agggtggccc cctgtgccag ctcaggtgac   120
tggagcccga gggcctgaca ggttcccagc ag                                  152
```

```
        <210> 437
        <211> 174
        <212> DNA
        <213> Homo sapien

        <400> 437
ccaggtactg gcacatcatg ctctggatgg gggtggtggt gtcctgtaag cagagaaaca    60
ggaaattgtc gtagtcagta tcgagcagct gtggcctcgt cgccaccgt atagttgatc    120
ttgaacttct ttggattctc agtcttctct ccaaggacct tcttctcaac acag         174
```

```
        <210> 438
        <211> 485
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(485)
        <223> n = A,T,C or G

        <400> 438
ccacggccct ctcggccctc tcgctgggag cggagcagcg aacagaatcc atcattcacc    60
```

```
gggctctcta ctatgacttg atcagcagcc cagacatcca tggtacctat aaggagctcc    120
ttgacacggt caccgccccc cagaagaacc tcaagagtgc ctcccggatc gtctttgaga    180
agaagctgcg cataaaatcc agctttgtgg cacctctgga aaagtcatat gggaccaggc    240
ccagagtcct gacgggcaac cctcgcttgg acctgcaaga gatcaacaac tgggtgcagg    300
cgcagatgaa agggaagctc gccnggtcca caaaggaaat tcccgatgag atcagcattc    360
tccttctcgg ngtggcgcac ttcaaggggc agngggtaac aaagtttgac tncagaaang    420
acttccctcg aggatttcta cttggatgaa gagaggaccg tgagggtccc catgatgtcg    480
gaccc                                                               485
```

```
<210> 439
<211> 317
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(317)
<223> n = A,T,C or G

<400> 439
gggccgtctt cccctccatc gtggggcgcc ccaggcacca gggcagtgat ggtgggcatg     60
ggtcagaagg attcctatgt gggcgacgag gcccagagca agagaggcat cctcaccctg    120
aagtacccca tcgagcacgg catcgncacc aactgggacg acatggagaa aatctggcac    180
cacaccttct acaatgagct gcgtgtggct cccgaggagc accccgtgct gctgaccgag    240
gcccccctga accccaaggc caaccgcnag aagatgaccc agatcatgtt tgagaccttc    300
agcacccccag ccatgta                                                 317
```

```
<210> 440
<211> 338
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(338)
<223> n = A,T,C or G

<400> 440
ccanaaagac ttcccaggga agatgcttgg ctctctgctc caaggtgggc catggtatag     60
ggccctcgaa gggcttgtgg ctggggtgat cccagggggc attgctcaaa gtgcacagga    120
ggtggcagca gggtcaggcg agttcctgtt ccagggacat caggagggag ggtagaagcc    180
tagggagtgt gcgaggctgc tgggatgagg gagctcaggg gctaccagct aaccagcctc    240
agctcaatgg tttctccatc cttgggtctg tagtcagcaa taccttgcaa cagtggggtg    300
ttggggtctc ggagaagctg ccagaactcc ctttctcc                           338
```

```
<210> 441
<211> 505
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(505)
<223> n = A,T,C or G
```

<400> 441
```
ccacacagan tcaccaagcc acagacttgt cttccacaag cacgttctta tcttagccac      60
gaagtgacca agccacacgt actaaaggtt gaactcaaag atatgtacag ggtattaaac     120
aaataccaag gggaacagtt aacttcaata caaggtcgaa atcagcaaca agttctacaa     180
tccagngctg atatcagata caagcttcaa ggacaatttc ttttcgaagg cttattccag     240
tttcgngagg ctagcatgag gtgtgtgcat ttgccagggg caaatttcta ttctcaatta     300
acccatgcag caaatgctac ncatggtgcn gagtccgttt agaagcattt gcggtggacg     360
atggaggggc ccgactcgtc ttactcctgc ttgctaatcc acnngngctg gaaggnggac     420
agtgaggcca cggatggagc caccnatcca caccgagtnc ttgcgctctg ggggtgcgat     480
natnttgatc ttcatggtgc tgggc                                          505
```

<210> 442
<211> 386
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(386)
<223> n = A,T,C or G

<400> 442
```
cgccaggtga tacctccgcc ggtgacccag gggctctgcg acacaaggag tctgcatgtc      60
taagtgctag acatgctcag ctttgtggat acgcggactt tgttgctgct tgcagtaacc     120
ttatgcctag caacatgcca atctttacaa gaggaaaccg taagaaaggg cccagccgga     180
gatagaggac cacgtggaga aaggggtcca ccaggccccc caggcagaga tggtgaagat     240
ggtcccacag gccctcctgg tccacctggt cctcctggcc ccctggtct cgatgggaac     300
tttgctgctc agtatgatgg aaaaggaggg nggacttggc cctggaccaa tgggcttaat     360
gggacctana ggcccacctg gtgcag                                         386
```

<210> 443
<211> 404
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(404)
<223> n = A,T,C or G

<400> 443
```
cctccctctc agagcttgcc ccagggactc tctggccctc agggttcaat gtattctgac      60
caaggccaag ctttcctggg gctcagggaa aatcacactt tgctacccga agctgtatcc     120
cctcagatgc caggaaggcc gtgatcatct gactccaccc tcctgagaca cattctctcc     180
ctgactgtcc tgttctaagt cagcggagca ccttaggatg gaggggtgga ggcgaggcca     240
ngatgcagcc tctgtgaaca ggtgcctgga ggctgggaaa tgaccctgag agggcaggac     300
acagcnaccg ngggcttaag gtgagggngg agagcaagnt tggcccactt tacaattcta     360
gntcagagcc anccctaac atggnggca tttattcatt tcgg                        404
```

<210> 444
<211> 318
<212> DNA
<213> Homo sapien

```
<220>
<221> misc_feature
<222> (1)...(318)
<223> n = A,T,C or G

<400> 444
catgggctat agtgcgctat gttgatctgg tgttcatgct aagttccgca tcaatatngc       60
gacttcttng gagtgggggа ccaccangtt gcctaaggag gggtgaacct gcctacgttg      120
gaaatagagc tggtcaaaac tcctgtgctc atcagtagta gaattgcacc tgtgaatagc      180
caccgccctc cagcntgggc aacatagcaa gaccctgcct cttaagataa aaattggaaa      240
acactggtan gaaaaaaagg ctgtttggtc taaanaagtc tggatngggt ataaatgaca      300
cnaanctatc atgactnt                                                    318


<210> 445
<211> 418
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(418)
<223> n = A,T,C or G

<400> 445
ccagtccaac ctgctcctca ttattgtata aatgagcaga atcaatatgg cggaagccag       60
cttcaattgc caatttggtg gcctctaaag ctttactttt aggaacctct gcaggcgcat      120
aggtgccaaa tcccaggaca ggcatgaagt gaccatcatt cagcttcaca cactgatatt      180
tcgaatccat ttctgtcact agcctggctg gcaaatgttt ctttcttcct ccctcacagg      240
ctataagagc aatgagctgg caacgcccct gagcacactg tctgctgntt aaccaatggc      300
atgtgagagg agggacagag gcagtcttac acaagctgtg ataaaaattg catncagttc      360
aaccagtttc ttacnttatt ctaatgngna ggaagtgtgn gaagagcaca aagtcaga       418


<210> 446
<211> 361
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(361)
<223> n = A,T,C or G

<400> 446
ctgtccaatn acaacaggac cctcactcta ctcagtgtca caaggaatga tgtaggaccc       60
tatgagtgtg gaatccanaa cgaattaant gttgaccaca gcgacccagt catcctgaat      120
gtcctctatg gcccagacga ccccaccntt tccccctcat acacctatta ccgtccaggg      180
gtgaacctca gcntctcctg ncatgcagcc tctaacccac ctgcacagta tccttggctg      240
attgatggga acntccagna acacnacaca agagctcttt atctccancn tnactganaa      300
gaacagcgcg actctatncc ttccaggggg ggggggtggg gnntgnggac cttnccgggc      360
c                                                                     361


<210> 447
<211> 321
```

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(321)
<223> n = A,T,C or G

<400> 447
ccagganant ggttccccaa aggggacctc acccgccccg agctctggag ccgctgacgc   60
tcgcatccag gacatttgag atgggaatcc aaataggcta cttgnaaaag acgtgctgca   120
ngcagccctg gagagactca tggagttcat tgtacattac tccatctacc gaggcagcgc   180
atggcatgac tnaacggctt gnaacaaaca canaaattac caccacaaac attcaggaac   240
caaatataat ctgctatggt cacaccacag acaatgcagg aagaggcttt ttattgctng   300
ngtgngtttt caaatcatgt t   321

<210> 448
<211> 325
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(325)
<223> n = A,T,C or G

<400> 448
ccagcttcaa cttttagta tagaagatac aggatcacaa aaaggagact acgctttgca   60
aacatagcat caaaattcaa cttttctctt tgcagtttat ccatggngtc agcatacctt   120
gcaagggaag ctacttacat caaataactt ttctatatac atttcctcat tgacctttc   180
tcaaagaata tcttggtttt gccgaacaaa cataatatag gngtctgcca gatccattcc   240
tggtttctgt ngtgaaggaa aagcaggggg aacaaaataa tatcagggtc tcaatngtga   300
nattattatt taatcatacc ctgan   325

<210> 449
<211> 123
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(123)
<223> n = A,T,C or G

<400> 449
cattaatntt ggaagcgatg gtgtggatta catcagtgtt agggcatggt gtggatatta   60
ttacattann attggaagcg atggtgtgga ttacatcagt gatagggcac ggtgtggata   120
tta   123

<210> 450
<211> 328
<212> DNA
<213> Homo sapien

```
<220>
<221> misc_feature
<222> (1)...(328)
<223> n = A,T,C or G

<400> 450
ctggcaattt tgagctgccg gttatacacc aaaatgttct gttcagtacc tagctctgct        60
cttttatatt gctttaaatt tttaaagaaa ttatattgca tggatgtggt tatttgtgca       120
tattttttaa caatgcccaa tctgtatgaa taatgtaaac ttcgattttt ttttaaaaaa       180
attagatttt agctggagct tttgactaat gtaaagtaaa tgccaaacta ccgacttgat       240
ngggatgttt ttgtaangtt aattttctaa gactttttca catccaaagt gatgctttgc       300
tttgggtttt aactgtttca acntnggn                                          328


<210> 451
<211> 209
<212> DNA
<213> Homo sapien

<400> 451
ctgccttgtt tcaacagaca tgcaaagatc ctaggagaca gtccccatag accttcagac        60
attaaaaagg gagccgtaca gtttgtttga agcacttcgt cttacccatt tatgcagggg       120
ccccaggaaa cttacacaca gccagaatga ggttcccaaa ggacttacat taattatggc       180
tcttgcttcc tttcacaaat gagctgagg                                         209


<210> 452
<211> 457
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(457)
<223> n = A,T,C or G

<400> 452
ctgtctantc ccttcaagag ctgtttatag aagcttgaga atggggtaaa aatttctgct        60
agcaaaatca agttcttttt gaaattttat cagtaatcca gaatttagta gtccatgcct       120
tctcactcag catttagaaa taaaaatgtg gtttcttaaa cgtatatcct ttcatgtata       180
tttccacatt tttgtgcttg gatataagat gtatttcttg tagtgaagtt gttttgtaat       240
ctactttgta tacattctaa ttatattatt tttctatgta ttttaaatgn atatggctgt       300
ttaatctttg aagcattttg ggcttaagat tgccagcacc acacatcaga tgcagtcatt       360
gttgctatca gtgtggaatc tgatagagtc tngactccgg ccacttggag ttgtgnactc       420
caaagctaag gacagtgatg aggaagatgg catgtgg                                457


<210> 453
<211> 277
<212> DNA
<213> Homo sapien

<400> 453
ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt        60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct       120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg       180
gcatacagga ctaggaagca gataaggaaa atgactacga gggcgtgatc atgaaaggtg       240
```

```
ataagctctt ctatgatagg ggaagtagcg tcttgta                        277
```

```
        <210> 454
        <211> 198
        <212> DNA
        <213> Homo sapien

        <400> 454
gttaaaagat agtaggggga tgatgctaat aatcaggctg tgggtggttg tgttgattca    60
aattatgtgt tttttggaga gtcatgtcag tggtagtaat ataattgttg ggacgattag   120
ttttagcatt ggagtaggtt taggttatgt acgtagtcta ggccatatgt gttggagatt   180
gagactagta gggctagg                                                 198


        <210> 455
        <211> 608
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(608)
        <223> n = A,T,C or G


        <400> 455
ctgagcaagc taaggaccag gggcaactag accctaataa tgngtacttt tgaaaatgat    60
acaaactacc ttggttgtaa gaagtgcagg ttgaacactt taggagaaca gtcttcaaac   120
tggcaattca aaatttccca ttatatgtga ataaaattgg aaggatgtta aatgtccatg   180
gaaagttact cttgtaagtt aggatgcctt atactgaggc tttanaatga aagtacactt   240
cacaaatgga atagtgaaca taaattacca gaagtcaaga taatagtcat actagtaagg   300
taagcaaggt aaattccctt atacacaaaa attattttga tgaccttttt caataatgaa   360
tctgaaatga agtgttttaa aaagctccct aaacacaaaa cgaacataaa actgcttaat   420
aactttagag ctcatgtaat attcttgctg aaaacagtta ctgaaattac cagcgaaatg   480
atggaatatc tttaaagcag gncactcngt ataatctgga ataatttcat ttgctaactt   540
ttaagaagta ttctctggac tataaatcnt gggcaaatag acttccactt tattattacc   600
ccaaatta                                                            608


        <210> 456
        <211> 467
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(467)
        <223> n = A,T,C or G


        <400> 456
cctggacctg tgtaaacctt caaacactct tttttacatt aggtcgtgaa gttaaatttt    60
ttactgtttc tgtgctacag actcttcaaa gggaaatagt taagtcaatt tcaaagaaaa   120
tgaccagcac atttttaaaa cattagaaat gatttgactt tgactatcta ctgccaaaaa   180
aaggttaagg aatttgtaat gagaagctaa aaactttaag gaattttaag gaactcaaaa   240
caaaaactca ttaaatgtaa ttaaagtgaa ttctacaaat aaagcctctt aatacatttc   300
tataatagtc acttaagact taaattcaaa cactagcaaa ccacaaaatc agactgtntg   360
actgacatcc aaaagataaa tataaatcaa aatccgaccc cagcattagc caagggggtag   420
```

```
gtgttcctct tgaggaaggc aggaattcct cttctgccac ctgttgg                    467
```

```
        <210> 457
        <211> 183
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(183)
        <223> n = A,T,C or G

        <400> 457
ccaaattttn tactttaaac actgaaaaca gaggaagtta ataaaaattt taacctataa      60
agtcccctgg ttgttagtca ttaacagcag attgtcagat aagactggta aaatgatggc      120
tgctaagcat ttgatgatcc aggcgcagga tgatcaaact gcagcagatc atgcacgtga      180
cag                                                                    183


        <210> 458
        <211> 445
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(445)
        <223> n = A,T,C or G

        <400> 458
gaaaaatata aagccaaaaa ttggataaaa tagcactgaa aaaatgagga aattattggt      60
aaccaatttta ttttaaaagc ccatcaattt aatttctggt ggtgcagaag ttagaaggta    120
aagcttgaga agatgagggt gtttacgtag accagaacca atttagaaga atacttgaag      180
ctagaagggg aagttggtta aaaatcacat caaaaagcta ctaaaaggac tggtgtaatt      240
taaaaaaaac taaggcagaa ggttttttgga agagttagaa gaatttggaa ggccttaaat    300
atagtagctt agtttgaaaa atgngaagga ctttcgtaac ggaagtaatt caagatcaag      360
agtaattacc ancttaatgt ttttggcntt ggactntgag ttaagattat tttttaaatc      420
ctgaggacta ncattaatgg gacag                                            445


        <210> 459
        <211> 426
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(426)
        <223> n = A,T,C or G

        <400> 459
cctatgatan cttctctagc tatcatactc caatcagcaa aaaatgagaa aatgttgaga      60
aatagaagat aattcctcat ttaaggccac cttctagaat ttgtgcttaa gattctgctt      120
tcttctcatg ggccagcact tcggcaactg gcaaaaatta ggtgtacagg gatctaggta      180
atactgttta tttgagcaat aatatattgt gctaacgttc aggcatccta ttactgagaa      240
ataagggaaa atgagtgtaa agtacaacta agagtctcgg cgacagggaa aaataccatc      300
```

```
agttaaatat ccatagtcct agagcattta tgtaaaactg caatntgaat cctgcaatac    360
atnttggctt tttccctcag tgataccatg tgagggaagn ngctctgtca aggcgggccg    420
gataga                                                               426
```

```
<210> 460
<211> 348
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(348)
<223> n = A,T,C or G

<400> 460
ccaaatttta aaatgttatt tttcatatca tttataacct tgtcacaatc cacttaaaga     60
agtttggtta tatttcactg aaaattttct tccagagtag gttttttttc gtgggttggg    120
gggtaacttt actacaatta gtaagtntgg tgcagaattt catgcaaatg aggagtgcag    180
cagngtgata atttaaacat atntaaacaa aaacaaaaaa aatgaatgca caaacttgct    240
gctgcttaga tcactgcagc ttctaggacc cggtttcttt tactgatnta aaancaaaac    300
aaaaaaanta annacnttgt gcctgaaatg aancttgttt ttttntna                 348
```

```
<210> 461
<211> 378
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(378)
<223> n = A,T,C or G

<400> 461
ccactaagac agaacggaat ctagtagaag tgcaccaatg cttcagtccc tcctactcag     60
catggtgagc agtggtcaat ctgtgccctg tggaatgatg ggcagataat tctggcatgt    120
gtaaataata ataaataatt cacttggtgc aggcagtatg tctatgaatt aaaacctagt    180
gtgtacacag tgcctacatg tgttacagcc ccacagtagg aatctacacc aaaatattta    240
ttagaaggaa tttggtccgt actacatcac gctttccgga gggtaaaaaa taaagtccat    300
ctatagacat ttcaccacag acccagagac tgagtctggc taaaacctgc aaaatgtcta    360
taacaaaagn ggatggct                                                  378
```

```
<210> 462
<211> 197
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(197)
<223> n = A,T,C or G

<400> 462
gcgaggtcca cactattaaa agctgttggg taattgaagg tgatataaaa tgactgtcnt     60
catttggagt gngcagcaca nttacttcat gttgctcang tttanaacaa tntcccctgn    120
```

aagttctcac acagatnggn agaaatcata cctanttntg gtnaatcact atggcagccg   180
tngaagaatn taagaga   197

        <210> 463
        <211> 279
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(279)
        <223> n = A,T,C or G

        <400> 463
cataagtgat gangaggnaa aatcantnaa taagcctaca acntagaata cattaaaact   60
tgcacatata catgttcaca gcatgtatac aatgataatc cctacggttt aaccaagtta   120
tggttccctt ctacagcaga cacaaaacca aggtgaacta ggtnggcaga tgtanaggga   180
ataccaaaaa aagggtaatn ngntcactga ttctgaagna tntgactgan catactgagc   240
ttctgnactt tgggaatgca tnnaggnaac aatatcttg   279

        <210> 464
        <211> 552
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(552)
        <223> n = A,T,C or G

        <400> 464
gatgggttga taggtgcagc aaaccaccct ggcgcatgtt taccaatgta acaaacctgc   60
acatcctgca caggtactcc aaaactaaaa gtaaaaaaat ctaaaagaaa aaagaaaaag   120
aattaaaccc aaaatcactt ccccatctgg acttgattta gatgaaaagc ttctggactt   180
tgagctgatg ctatagtggg ttgaaaattt tggggtcctc agaaggggat gaggatatat   240
tgcatgagag agcaacatga atcatngaga gccagagtat agagagnggt gggtagactg   300
taggagagcc ctcaatgatc ccggctgtct tgtattcgcg ttgcacttac ttgtataata   360
tggcagatgg gatgtgatgt cactttcaag attangttat aaatagacta tggcttcaat   420
cagagggttt tcttctctgt ctanctctct tttgggtagn ttcattctga gagaaagcca   480
nacctcngcc gcnacccacg ctaaggggcg anttccagcn cactggcggc cngttactag   540
tggatccgng ct   552

        <210> 465
        <211> 444
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(444)
        <223> n = A,T,C or G

        <400> 465
ccactcttgg tagaaacctt gaaactttca ccttgctggg ctttagcaaa gtttcctttt   60

```
acagttctgt ttatgagctt cagctactga taaagcactt cctgaacttc tctattatca      120
tagngaccct ctgaataacc tgagtgactg gctcggcaat tcgctttata accattctta      180
ttcccaaagt tggagcacat aaacatttag atgtctttc ctgtaaaata ttctagacat       240
ttacccaaac tctagttcaa catatactca acttgcactg tatatctccc tgcttttttg      300
agacagagaa gaaattcagg aggtgnccca tctccagagt ttctctgttg gaaagcagcn      360
atcaagaanc ctttaaaaaa ttggtgtnaa gctntgccnc ctgcagaaat gcntngcccc      420
acattattct tctggggnaa agna                                            444
```

```
        <210> 466
        <211> 381
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(381)
        <223> n = A,T,C or G

        <400> 466
cctactatgg gtgttaattt tttactctct ctacaaggtt ttttcctagt gtccaaagag      60
ctgttcctct ttggactaac agttaaattt acaaggggat ttagagggtt ctgtgggcaa     120
atttaaagtt gaactaagat tctatcttgg acaaccagct atcaccaggc tcggtaggtt     180
tgtcgcctct acctataaat cttcccacta ttttgctaca tagacgggtg tgctctttta     240
gctgttctta ggtagctcgt ctggnttcgg gggtcttagc tttggctctc cttgcaaagt     300
tatttctagt taattcatta tgcannaggt atagggnta gtccttgcta tattatgctt      360
ggttataatt tttcatcttt c                                               381
```

```
        <210> 467
        <211> 95
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(95)
        <223> n = A,T,C or G

        <400> 467
cctatanatt ntggnttgta tactgggtcc tgaaaaccct cttggngctc tgtttttaag      60
gagctgaanc caangancgc caataataat acttt                                95
```

```
        <210> 468
        <211> 224
        <212> DNA
        <213> Homo sapien

        <400> 468
cagtgggtct ctgatgcctt gcctgcagca gaaggaggga gcagagatca agaggaagga      60
aaaaatcata tgtacttatt tgaaggtaaa gattattcta aagagcccag taaggaagac     120
agaaaatcat ttgaacaact ggtaaacctt cagaaaaccc ttttggagaa agctagtcaa     180
gagggccgat cactccgaaa taaaggcagt gttctcatcc cagg                      224
```

```
        <210> 469
        <211> 416
```

```
        <212> DNA
        <213> Homo sapien

        <400> 469
ctgagttcta gttcaaaagc tttatcctta acttcgtcat gtactatgta aattctagaa        60
tagaaaaggg aaaggtaaga ttttggtaac ctccaaacat tgaagtagtt cacagaccca       120
aagtcagtac aaattagaat gtccatccat aataaaagta tctataaaat tacacagaca       180
cattctacat agtatttaac attagagaag acaaattaca cagggactga aataaaatga       240
aacatctact ctcccgacaa atgttgaata tacctaatca acccaagttc agtttatttt       300
tgcacattgc tttagagata taacttggct gggcacagtg gctcacacct gtaatcccaa       360
cactttggga gaccaaggcg gatggatcac ttgaggtcag ttcgagacta gcctgg          416


        <210> 470
        <211> 376
        <212> DNA
        <213> Homo sapien

        <400> 470
cacctttaa ctgtatcaca aagtctgttg ctgtggttac agcctttgtt tccagtgatg        60
ttttgtccat gctttccccc aacccttaac aatggttact caaaagaatg aaataatgag       120
tcattcattc gggaatatgt taaaatatcc ctctttatca ttacatttca ctgcttagaa       180
actaggctgt aattcaaggc aacagttaag tctgagaact gttaaaaaaa tctttgattt       240
tttttcattt ttaagaaaaa cctgcctatt taattgttca gacttgtaag aggttcttca       300
attacatcct ttttggttaa tgtattattt ctggaacaag tagataaaat tctacgcagt       360
aagcataata aaaatc                                                       376


        <210> 471
        <211> 357
        <212> DNA
        <213> Homo sapien

        <400> 471
ggcttcgtat aatggttctt ttgtcacccc tgatcgacga tttcgctacc cgtacaactc        60
tgacaaggga acgaaatgct tctgtgtatt cacctagtgg tcctgtgaac agaagaacaa       120
caactccacc ggatagtgga gtactgtttg aagggttagg catttcaaca agacctagag       180
atgttgaaat tcctcagttt atgagacaga ttgcagtaag gaggccaact acggcagatg       240
aaagatcttt gcggaaaatt caagaacaag atattattaa ttttagacga actctttacc       300
gtgctggtgc tcgagttaga aatattgaag atggtggccg ctacagggat atttcag         357


        <210> 472
        <211> 557
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(557)
        <223> n = A,T,C or G

        <400> 472
cngagatgac atttacaatc tcttgaaang cagcagatgg cactctggtg cttcctatga        60
agcaacatgc ttgaaatcaa gggccaacaa ttgttgtagg aaagcaaaat atacctctaa       120
cacctacgtt taccaaaaaa gctgacatct caaactctga gttgttgaga ctcaaatttc       180
tcatccccaa agaagcctat tacggtagtg tgntggatgc tttttgtatc tctgataggc       240
```

```
aggcactata atggggggaa atacttctga ataaaaacat tggctgtctt gcaactgtgc    300
atataatgtc tattcaaggg ggcagtgtgc ctagcatgat cctgaaatgt tgagataaaa    360
ggaagttggc attaaagcac tatttgtctt atatgaaaag agtgactcta tcttccagta    420
aacaagantt cctgcaatga aaaagaaatt ttttccttca ttatctataa actatacaaa    480
ataaccttcc ttttttaacct aagactcaaa cattnatatt tgattttatt ctatttgata    540
ccaattggta tgtccag                                                    557
```

<210> 473
<211> 264
<212> DNA
<213> Homo sapien

<400> 473

```
cctccatcaa cagaaaggat aaagacccct tcgggtctcc tcattaattc tgaactggaa    60
aagccccaga aagtccggaa agacaaggaa ggaacacctc cacttacaaa agaagataag   120
acagttgtca gacaaagccc tcgaaggatt aagccagtta ggattattcc ttcttcaaaa   180
aggacagatg caaccattgc taagcaactc ttacagaggg caaaaaaggg ggctcaaaag   240
aaaattgaaa aagaagcagc tcag                                          264
```

<210> 474
<211> 165
<212> DNA
<213> Homo sapien

<400> 474

```
aattcagctt ccagaggccc ttattagtcc ttgttgacag aaacatagat ttggcaactc    60
ctttacatca tacttggaca tatcaagcat tggtgcacga tgtactggat ttccatttaa   120
acagggttaa tttggaagaa tcttcaggag tggaaaactc tccag                   165
```

<210> 475
<211> 417
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(417)
<223> n = A,T,C or G

<400> 475

```
aagttctctt cttgttttaa acacattcct gataacttct aaagatgacc aaaataaaac    60
agaatatcta cagagatcat tttctgaatt ttttgtacat ccaaggataa caacataaaa   120
aaaataaaac tggacagcat tccacatcca agtgcacaga accatttttg caagattaaa   180
taatgtaaac attgggaaca gccaaatcag cgaagaatgc caacacctca aaacacctgg   240
tgttgccgct tcattaagtg gttcaaaatc cagatctata attgcgcaat attcaccgta   300
tataaaaga aatggatatt aattttgaca aatagctgca actgagactt ctttttattt   360
ctttatatgn gnatatagtg aatttttatt attttaaaa ttttatttat tttttta       417
```

<210> 476
<211> 321
<212> DNA
<213> Homo sapien

<220>

```
<221> misc_feature
<222> (1)...(321)
<223> n = A,T,C or G


<400> 476
catttaataa caaaaacaac ctgtacggaa aacccnaagg caaccacata gcatatgtaa      60
aatgtgcaaa tacactttaa aatgcangtt attctatagc anttgcaaga tagaatttca     120
ctgtaattag ggaatctagc tcatcctaac ttaatagnct tttgcatgtn tagacaatgc     180
aattctacaa ggnacnactc agcgttgatg ctaaagtatg aaacacatcc tcagattatt     240
catccgaaaa tattaaaata gcntcatgtt ttattattct ttaatgagtc ntgagctcat     300
ttctaaagct tcataaagca t                                               321


<210> 477
<211> 546
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(546)
<223> n = A,T,C or G


<400> 477
gctgtggtta tattgtaaat gaagcatcta acatgtgcac aacttgcaac aaaaactcct      60
tggacttaa atctgtcttt ctcagtttcc atgtgctgat tgatctgact gatcacacag      120
gcacccttca ttcctgtagt ctcacaggaa gtgttgctga ggagactttg ggctgcacgg     180
tacatgagtt tcttgcaatg acaaatgaac agaaaacagc attaaagtgg caattcctct     240
tggaaagaag caaaatttat ttaaaattcg ttctatcaca cagagcaagc agtggattga     300
aaattagtgt actctcgtgc aagcttgcag atcctactga ggcaagcaga aacttgtctg     360
gacaaagaca tgtttaaaac ggtctatcat tttgaactct ggaaaagtat aagagtttta     420
actcccttta aaatggaata ttaatttgaa aattatgggg aaaattgcat tttgtttaca     480
tgtggtgaac atgtttctag aaattggtat ggcgggaagg gggctgggtg agtctgaagg     540
acctcn                                                               546


<210> 478
<211> 100
<212> DNA
<213> Homo sapien


<400> 478
aagaaaagtg gtaaaatcaa gtcttcttac aagagggagt gtataaacct tggttgtgat      60
gttgactttg attttgctgg acctgcaatc catggttcag                          100


<210> 479
<211> 508
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(508)
<223> n = A,T,C or G


<400> 479
```

```
gnnttccaaa ttcttctaac tcttccaaaa gccttctgcc ttagtttttt ttaaattaca      60
ccagtccttt tagtagcttt ttgatgtgat ttttaaccaa cttccccttc tagcttcaag     120
tattcttcta aattggtcct ggtctacgta aacaccctca tcttctcaag ctttaccttc     180
taacttctgc accaccagaa attaaattga tgggctttta aaataaattg gttaccaata     240
atttcctcat ttttttcagtg ctattttatc caattttttgg ctttatattt ttctatcttc    300
tatacttctc caatacttgt cttagcttgt ttttcatttt ctatctgaaa ctcttgacaa     360
tatcttctaa tttccctatc ttctctattc ttttcttcgc cttcccgtac ttctgcttcc     420
agntttccac ttcaaacttc tatcttctcc aaattgttca tcctaccact cccaataatc     480
tttccatttt cgtgtagcac ctggncag                                        508
```

        <210> 480
        <211> 81
        <212> DNA
        <213> Homo sapien

        <400> 480

```
ggtgcccttt tcctaacact cacaacaaaa ctaactaata ctaacatctc agacgctcag      60
gaaatagata aggaaaatga c                                                81
```

        <210> 481
        <211> 306
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(306)
        <223> n = A,T,C or G

        <400> 481

```
tcgccttcgg ccgccgggca ggttaggggn acaagacgct acttccccta tcatagaaga      60
gcttatcacc tttcatgatc acgccctcat agtcattttc cttatctgct tcctagtcct     120
gtatgccctt ttcctaacac tcacaacaaa actaactaat actaacatct cagacgctca     180
gggaatagaa accgtctgaa ctatcctgcc cgccatcatc ctagtcctca tcgccctccc     240
atccctacgc atcctttaca taacagacga ggtcaacgat ccctccctta ccatcaaatc     300
aattgg                                                                306
```

        <210> 482
        <211> 582
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(582)
        <223> n = A,T,C or G

        <400> 482

```
gggggggaaca gtcattatac attatttaga ctcattcctt cttccagtgc ccttatgatt      60
atttcctacc tttaccattg atcttaaact gngcaggcta aaaagaggaa ccagaactcc     120
cttaagcact tttaagacta tttaaaaaat aaagntttgt tggcattgaa gagtaagctg     180
cttaagggac tgaatgaaaa gatagtaccc tttgtggctg tatgaagaga gaaactgaat     240
ttctatccaa gagaccttaa tntagcctat tagggaatta tcttccccaa aagtacaagt     300
aattttgcac tgcaggagaa ggataagtag atttgattta catcacattt tatacacacc     360
```

```
tttcaagnang gagaaatctg cttcataaat agnaggaatc tatgcttaaa ctnaacattt    420
aatggtgacn tcttacaaca gccttgaaaa nnattggaan tcngacntga nggnggaaac    480
tggaanaaag aatatctttc tcttctgcat cctttnatcc tcaaacttag catggattca    540
cacgctgagg aaangttngg tnacnaccng aacatttaga ta                       582
```

```
<210> 483
<211> 275
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(275)
<223> n = A,T,C or G

<400> 483
```

```
gcctcactaa aataacagat ttcagtatag ccaagttcat cagaaagacc caaatggaat    60
gatttacaaa atagaacact ttaaaccagg tcagtcctat ctttttgtag ctgaaggcta    120
tcagtcataa cacaatttcg cgtacacctc tgctcattat ggaattacac ttaaaacgaa    180
tctcaagagg gtgaccattg ttgtttcaga taccatccct aaggagagtg gttaacagga    240
agattgccag ngttactgat ggaaagaagc gcttg                               275
```

```
<210> 484
<211> 434
<212> DNA
<213> Homo sapien

<400> 484
```

```
catatttcca caggccaatt tctttctgtt tttctgctaa gctatttcag cattttagct    60
tttcctcttt gctttgttta ctcatgattg ccagatggct acgttacctc taagcatcag    120
atcctcacaa attaatggtt aaatgtaagg gagggatttt actctcttgc attaaaaaaa    180
agctttattg agatataatt tactgtaaca ttgactcatt taaagtatgc tagtcaatag    240
accaaatctt gaataaactc ccattcacaa ttgctacaaa gggaataaaa tagctgggaa    300
tatagctaac aagggaagtg aagggcctct tcaaggagaa ctacaaacca ctgctcaaga    360
aataagagag gatacaaaca aatggaaaaa cattccatgc tcatgaatag gaagaatcaa    420
tatcgtgaaa atgg                                                      434
```

```
<210> 485
<211> 291
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(291)
<223> n = A,T,C or G

<400> 485
```

```
ncaccactgc agccctacat acagttgaaa aaaaattcca ttctgttaac atttgtttta    60
taagtttttca cgcaatacac aaaaaacccc tctgcacttc ttgtaaagaa caaaaaagat    120
acacaacagt taagcgtaaa gatcacaggc aatagcattc aaacatggat gtgggtagag    180
aaaggagtac ctggcatgag tacctgctta gtttgactga atccttgatt tttaatttgg    240
cttttcatgg gccgctcaca acaccaacgc tgtgtgaggt atggtagtca g             291
```

```
<210> 486
<211> 274
<212> DNA
<213> Homo sapien

<400> 486
ctgtaatatt gtagttgctc cagaatgtca agggcagctt acggagatgt cactggagca      60
gcacgctcag agacagtgaa ctagcatttg aatacacaag tccaagtcta ctgtgttgct     120
aggggtgcag aacccgtttc tttgtatgag agaggtcaaa gggttggttt cctgggagaa     180
attagttttg cattaaagta ggagtagtgc atgttttctt ctgttatccc cctgattgtt     240
ctgtaactag ttgctctcat tttaatttca ctgg                                274


<210> 487
<211> 184
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(184)
<223> n = A,T,C or G

<400> 487
tggcaccaag attctcagct cacggtacca gcatctgatt gtcggactac ctgctgcttt      60
ccctgatatt tatacatgat attcgnaaaa tgtaaagaag ctattattca tacagacatc     120
tagagaagga gngaagnttt taaaaaaata aaaaaatact tatttcaagc tttagctgtg     180
ttct                                                                  184


<210> 488
<211> 393
<212> DNA
<213> Homo sapien

<400> 488
ctgcattttt attgcgatct gcagatgaac tggaaaatct cattttacaa cagaactggg      60
acagacgacc accatattca ctgaggtcta aatttgcagt ttccactaat gacattttga     120
tttcccaaca gagatacttc tggtcttact gcacagtctt ttaagagaaa tacttccatt     180
atgccacatt gtccttgatc cgtaagtgat gtgttaaggt gcttcaaagg aactctgacc     240
tctgaagtac ttgagctact ttagtatgtc cagcctattg ctttttgttt tagtgtgtca     300
ccataaatat caggggcata aaaggctatc tattcttaat tcaaggataa aacagaagaa     360
gcttgtggta taaaacaata gttcaagatc cag                                  393


<210> 489
<211> 607
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(607)
<223> n = A,T,C or G

<400> 489
gtgcttatgt acttaagggg aactactcta actgggtgaa gagtangatg aagcatccat      60
```

```
gtccctacaa aggatatgaa ctcatccttt tttatggctg catagtattc catggtgtat    120
atatgccaca ttttcttaat ccagtctatc atcgatggat atttgggttg gttccaagtc    180
tttgctattg tgaatagtgt cgcaatgaac atacatgtgc atgtgtcttt atagcagcat    240
gatttataat cctttgggta tatacccagn aatgggatag ctgggtcaaa tggtatttct    300
agttctagat ccttgtggaa ttgccacact gtcttccaca atggttgaac tagtttacag    360
tcccaccaac agtgtaaaag tggtcctatt tctccacatc atctccagca cctgttggtt    420
cctgactttt taatgattgn cattccaact ggtgtgagat ggtatatcac cgtgggtttg    480
atttgcattt ccctgatggc cagtgatgat gaacnttttt tcatgtggtt tttggctgca    540
taaatggcct gccttttnta cttctataaa attttcann tcttattatt attcctgggg    600
gnttaag                                                              607
```

```
<210> 490
<211> 179
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(179)
<223> n = A,T,C or G

<400> 490
```
```
cttctaggaa tactagtata tcgctcacac ctcatatcct ccctactatg cctagaagga     60
ataatactat cactgntcat tatagctact cccataaccc tnaacaccca ctccctctta    120
gccaatattg ngcctattgc catactagtc tttgccgcct gcgaagcanc ggtaggacc     179
```

```
<210> 491
<211> 399
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(399)
<223> n = A,T,C or G

<400> 491
```
```
cctctacctg taatcacatt aattttcta aagacagggg nggtgttttg aagataaatg     60
tcattagtct atgataatag catcatagga caattagcca ttttagactt gaccatattt    120
tctcttttta gcatatagcc atcttgatat ttaggnggga gactactcca atggagcaac    180
agtttcattt tacatgattg gatttagaaa tttacaaatt ttaaactcat aagaattcta    240
aataatttga aaatggaaac atttgacccca cagtctagca gcataaatac atttataaaa    300
tacttcattg ttgatcttag gtcattgatt taaaacagaa tttggtgact atgggcaggt    360
ggaggggggcc ngtgaggaag gtataaaaga gaaatcttt                          399
```

```
<210> 492
<211> 482
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(482)
<223> n = A,T,C or G
```

```
      <400> 492
ctccacctta ctaccagaca gccttagcca aaccatttnc ccaaataaag tataggcgat    60
agaaattgaa acctggcgca atagatatag taccgcaagg gaaagatgaa aaattataac   120
caagcataat atagcaagga ctaacccccta taccttctgc ataatgaatt aactagaaat   180
aactttgcaa ggggagccaa agctaagacc cccgaaacca gacgagctac ctaagaacag   240
ctaaaagagc acaccgtct atgtagcaaa atagtgggaa gatttatagg tagaggcgac   300
aaacctaccg agcctggtga tagctggttg tccaagatag aatcttagtt caactttaaa   360
tttgcccaca gaaccctcta aatcccctg taaatttaac tgttagtcca aagaggaaca   420
gctctttgga cactaggaaa aaaccttgta gagagagtaa aaaatttaac acccatagta   480
gg                                                                  482
```

```
      <210> 493
      <211> 207
      <212> DNA
      <213> Homo sapien

      <220>
      <221> misc_feature
      <222> (1)...(207)
      <223> n = A,T,C or G
```

```
      <400> 493
cataaatatt atactagcat ttaccatctc acttngngga atgctagtat atcgctcaca    60
cctcatatcc tccctactat gcctagaagg aataatacta tcactgttca ttatagctac   120
tctcataacc ctcaacaccc actccctctt agccaatatt gtgcctattg ccatactagt   180
ctttgccgcc tgcgaagcag cggtagg                                       207
```

```
      <210> 494
      <211> 283
      <212> DNA
      <213> Homo sapien

      <220>
      <221> misc_feature
      <222> (1)...(283)
      <223> n = A,T,C or G
```

```
      <400> 494
ccaattgatt tgatggtaag ggagggatcg ttgacctngt ctgttatgta aaggatgcgt    60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct   120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg   180
gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaaggtg   240
ataagctctt ctatgatagg ggaagtagcg tcttgtagac cta                     283
```

```
      <210> 495
      <211> 590
      <212> DNA
      <213> Homo sapien

      <220>
      <221> misc_feature
      <222> (1)...(590)
      <223> n = A,T,C or G
```

```
        <400> 495
tatgtatata attttcttag ttactagcat agagaaatta ctgatttaaa aaaacatttc       60
aaattctagc atgttgtagg attctattgc cctttctaaa aagtacatct tgcttatccg      120
atttctaaca aaactatttaa atttgaagaa gggagaatga atttggataa aaagcaaaaa      180
tttaaaggta ctcaaattta ggcaaaccat taaagcaatc ttagtttaca gttaattggg      240
tagaatggtc aacactttct tcaggttagt tcatggagtg gatatgcatt gatagaacaa      300
cttagagatg cttttacagt tgagaaagct cattatattt gttatcttta agaatcagct      360
tatttatttc atatgtttgt tctttaagaa gaccaaagag ccctgcaaat gaatgttgat      420
ttgttttttt gtttgtttaa tattttgta gagataagat ctcactttgt tatgttgccc      480
aggctggtct caaactctca acttgaagtg atctgcccac ctcagcctcc caaagtggtg      540
ggattacagg catgagccac cgcacctgga cctgcccggg cggncgctcg                590
```

```
        <210> 496
        <211> 307
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(307)
        <223> n = A,T,C or G
```

```
        <400> 496
ggagattagt atagagaggn anacnttttt tcgngatatt tggtcacatg gataagtggc       60
gctggcttgc catgattgtg aggggtagga gccaggtagt tagtattagg aggggggnng      120
ttaggggggtc tgaggagaag gttggggaac agctnaatag gttgttngnt gatttggnta      180
aaaaacanta gggggatgat nctaataatt antgctgtgg gtggttgtgn tgattcaaat      240
tatgngcttt ttcggagann catgtcangt ggtagtaaat ataattgttg ggaccattan      300
ttcttan                                                               307
```

```
        <210> 497
        <211> 216
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(216)
        <223> n = A,T,C or G
```

```
        <400> 497
cattttcctc ttggtttctt cagttaagtc aaanngncac gttcctcttt ccccatatat       60
tcatatattt ttgctcgtta gtgtatttct tgagctgttt tcatgttgtt tatttcctgt      120
ctgngaaatg gtgtttttttt ttgttgttgn tggttttttt tttttttttt aaactnggna      180
ccncnaattt gaaaaaatgn ttnttttttcc ctnaca                              216
```

```
        <210> 498
        <211> 375
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
```

<222> (1)...(375)
<223> n = A,T,C or G

<400> 498

```
gaatttcctg gcaccttttc tcgctagaga agattnngtg tgactgggtt gcctataagc    60
catatagata caaacttttta tctctaatac caagtcttag agggatatat taatagatct   120
aataaattta ttcttagact tattgtttca tgggntagtg agtctttgct actggagaca   180
atacagactt gtcagttttt ttaaaaaaaa aaaatttgcc aagctancac attaaaaana   240
tntcctaagg ctntcatttt atgaggatga ttataaacnt ttntgngata aatatcacca   300
taataaactg ttaagtacaa ctgcnggccn cccttanagn gaattcctnc agttanaaat   360
ttattttttt gccaa                                                    375
```

<210> 499
<211> 215
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(215)
<223> n = A,T,C or G

<400> 499

```
ccacnaaagc agaagcttaa agcatagtag taaagaggnn aaaaagaagg acgaaaataa    60
atcagatgac aaggatggta aagaagttga cagtagtcat gaaaaggcca gaggtaatag   120
ttcactcatg gaaaagaaat taagtagaag gttgtgcgaa aatcggagag gaagcttgtc   180
acaaaaaaaa aaaaaaaaaa aaaaaaaaat gtttt                              215
```

<210> 500
<211> 489
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(489)
<223> n = A,T,C or G

<400> 500

```
ccactacgat aagcaggtag ctgggttttg tagtgagntt gctccttaag ttacaggaac    60
tctccttata atagacactt cattttccta gtccatccct catgaaaaat gactgaccac   120
tgctgggcag caggagggat gatgaccaac taattcccaa accccagtct cattggtacc   180
agccttgggg aaccacctac acttgagcca caattggttt tgaagtgcat ttacaaggnt   240
tgtctacttt cagttcttta cttttacat gctgacacat acatacactg cctaaataga    300
tctctttcag aaacaatcct cagataacgc atagcaaaat ggagatggag acatgatttc   360
tcatgcaaca gcttctctaa ttataccttta gaaatgttct ccttttttatc atcaaatctg   420
ctcaagaagg gcttttttata gtagaataat atcagtggat gaaaacagct taacattta    480
ccatgctta                                                           489
```

<210> 501
<211> 286
<212> DNA
<213> Homo sapien

```
        <400> 501
aaaaacactc aaacacagcc ttggagggag gagtcagttt taaaagactc ttataaaagt      60
aatatactgc tagctctgaa gaatcggagg ctaaaatcat ctcttcaagt ccccagggaa     120
tcccaaagaa ctccagggga aggtgggatg ggccagagag ctctggaagc ttccaggtct     180
gttgcaagcc tcacctggta cacagtaggc tcttccaggt ctgtcaggaa cccaggagcc     240
tcccctagca cacagtaggc tcacaaaaag ggagcactgc tgctgg                    286


        <210> 502
        <211> 168
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(168)
        <223> n = A,T,C or G


        <400> 502
cctatgattg tgggggcaat gaatgaagcg aacagagntt cgttcatttt ggttctcaga      60
gtttgttata attttttatt tttatgggct ttggtgaggg aggtaagtgg tagtttgtgt     120
ttaatatttt tagttgggtg atgaggaata gtgtaaggag tatgggggg                 168


        <210> 503
        <211> 173
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(173)
        <223> n = A,T,C or G


        <400> 503
cctttataat aaattaggca aaaggttcag tgcnnggcta tantggacaa catgaaactc      60
cataaaaatg actggatagg gggactgctt gagacttttc ttttgggcat tactaacaga     120
attcaaagaa attccaacca cgcttatttt tccaaattct actgaaatga gag            173


        <210> 504
        <211> 310
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(310)
        <223> n = A,T,C or G


        <400> 504
tagtattcta tttaaaaatt aagttttggg gtctgtaaaa tatacaggac aatgactttt      60
ttaaaatgta agttaatacc tcctcctcac ttgtcttaat tgaacttagg tgtttattct     120
taaaggngga ccttgatgaa aatgttgaga tgggaagtgt tattaggcaa aacttgttat     180
agatttctca tataactctt aattgaccct tagaatttta acaaccgcgc ctggcccaat     240
agactgtttt ttagagtant tttaggctct cancaaaatt gaggggaaaa tacagggtgt     300
tcccattaaa                                                            310
```

```
<210> 505
<211> 530
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(530)
<223> n = A,T,C or G

<400> 505
cctcagggaa cttacaatta tggcaaaagg ggaaggggaa gcaagcacct tcttcacaag      60
gcatcaggag agagagagaa agagagtagg ggaaactacc ccttttaaac catcatatcc     120
tgtgagaact ccctcagtat tagaagagca tgagggaaac cgcctccata atccaatcac     180
ctcccaccag gaccatccct caatacatgg gggttacaat tcaagatgag gttcgggtgg     240
ggatacagat ttaaaccata tcagaatggt taatgatatt gttgtatttt accaactata     300
atcttcttag tgttatagta caataatgta aaaaattgag taaatttgtt ttctatatta     360
ttctgttttt ggaaaacatg tatatagtca gggctgtttg tctcaagaaa atatggtaaa     420
ctctgctgtt ttggtcactg gtgcctagaa tttggggatg tacattggtt ttgattcaca     480
tgcacatttc cttctagttc acagtaacta tttctaacta tttcccnata                530
```

```
<210> 506
<211> 352
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(352)
<223> n = A,T,C or G

<400> 506
cttgaacgct ttcttaattg gtggctgctt ttaggcggta ctatgggtgn taaatttttt      60
actctctcta caaggttttt tcctagtgtc caaagagctg ttcctctttg gactaacagt     120
taaatttaca aggggattta gagggttctg tgggcaaatt taaagttgaa ctaanattct     180
atcttggaca accagctatc accaggctcg gtaggtttgt cgcctctacc tataaatctt     240
cccactattt tgctacatag acgggtgtgc tcttttagct gttcttaggt agctcgtctg     300
gtttcggggg tcttagcttt ggctctcctt gcaaanntat ttctagttaa tt             352
```

```
<210> 507
<211> 370
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(370)
<223> n = A,T,C or G

<400> 507
cctaactaga tcttatcaga atagggggga agggngtcgg ttcatcctta ttgagtgtta      60
atgaccctgt aagatgtaat ttcttttatt tcattctgtt acctagaaaa tctatcacag     120
ccttgtagta ttgattgctc aatctataaa gagctcagtt tacagcatga ctgttagtaa     180
```

```
cagggntatt ttaatgagtg actcttcaac acctcagagt ttcactaaat tccaacccat      240
cagcccagta gtctaacatt aagggtctta ggaaatgaga acttatcacc tttccttatc      300
atgaaaggt aacctccagg taaccaaaaa tagaacttcc tctgtgttcg tttttttatag      360
aaattactgg                                                             370
```

```
        <210> 508
        <211> 129
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(129)
        <223> n = A,T,C or G

        <400> 508
ctgttaaaag aacaaactta gcaatatata acagttnggt aacaggattt ttgactattc       60
actttgggag ttatttttaa aaatccactt ttttactgag tcttactaca taccaggcac      120
tgtacttgg                                                              129
```

```
        <210> 509
        <211> 422
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(422)
        <223> n = A,T,C or G

        <400> 509
ntgggaagtc gtgacatcca tgggaaccca gcgctgtgat gctggtgttt gngttctccg       60
cgagaagtga ccattgttgg agcaccatcc agagctagtg accantncag tggacagtta      120
gtgggagaat caaaaatcct ttccagaatg tctgtttctc actacntgca ccgggngatt      180
acaggcacca gtgcagngat gattgtactt atttgacaca tactccccgt cntcctggnt      240
nttgttcctg anaanggtgg gtaaatattc caggaaaaan aatgcacatt gaatggatgt      300
gagagaccac attgcctctc ccactgcttt ggggagcact ttcctgtcat ttctaactta      360
ccacntgctt ggtgtactat atgtatgttg tgcctcatat gttgcaaaga actaangtga      420
gt                                                                     422
```

```
        <210> 510
        <211> 238
        <212> DNA
        <213> Homo sapien

        <400> 510
ccacctatga attggtggtt tacctactca atggatagca gcacgaggac tgctgtactg       60
cacaaaaaga agaccaaaag attacagtgg accatgggat acagaagcca gcatggcaga      120
cagaagaaaa atagtttggg aacatgtaac tatcctaagt ggaagttttg ttgtaggaat      180
tatagtaatc acaccacatt acttggcctt tcggtaatgt gaaaaaaaaa aaaaatcc        238
```

```
        <210> 511
        <211> 254
        <212> DNA
```

```
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(254)
<223> n = A,T,C or G

<400> 511
ccnattgatt tgatggtaag ggagggatcg ttgnggctcg tctgttatgt aaaggatgcg        60
tacggatggg agggcgatga ggactaggat gatggcgggc aggatagttc agacggtttc       120
tatttcctga gcgtctgaga tgttagtatt agttagtttt gttgtaagng ttaggaaaag       180
ggcatacagg actaggaagc acgataagga aaatgactat gagggcgnga tcatgaaagg       240
tgataagctc ttct                                                        254

       <210> 512
       <211> 269
       <212> DNA
       <213> Homo sapien

       <220>
       <221> misc_feature
       <222> (1)...(269)
       <223> n = A,T,C or G

       <400> 512
cctacctgta aactacagta ctttatatat ctatgggntt aataaaaana aaatccacaa        60
atcttaaaaa ggaactttaa atgcagggct atattgaatt ggnaaactgc aacacaaact       120
ggcgcaacat aggtaaatga ataccaatct cactctatgt gatgcaagca tgctactttc       180
ccactaattt aaattacttt caaccactat gagccagaat gcatgcctga accttaaact       240
gcactttaaa aagtaacatc ttggcctaa                                        269

       <210> 513
       <211> 266
       <212> DNA
       <213> Homo sapien

       <220>
       <221> misc_feature
       <222> (1)...(266)
       <223> n = A,T,C or G

       <400> 513
ggaggggggt tgttaggggg tcggaggaga aggntgggga acagctaaat aggttgttgt        60
tgatttggtt aaaaaatant aggggatga tgctaataat taggctgtgg gtggttgtgt       120
tgattcaaat tatgtgnttt ttggagagnc atgncantgg tagtaatata attgttgaga       180
cgattagttt tagcattgga gtaggtttag gttatgnacc gtactctagg ccatatgtgt       240
tgganattga nactagtagg gctagg                                          266

       <210> 514
       <211> 271
       <212> DNA
       <213> Homo sapien

       <220>
```

```
<221> misc_feature
<222> (1)...(271)
<223> n = A,T,C or G


<400> 514
acatgcaana aatcgagaat cttaaaaaac annacgaanc tgccctggaa nncttactgg      60
nntangatat ttatnttgcg gctgagatac ttgaacaact tcggatcnga antagacaan     120
aangggnant tntatactgc nncagaggtt acacagntca ttgtattaga gangaacana     180
tgggtctggt gttcacacat tggggggaan atgggcgtnn acangagagg nnganaaacn     240
anganagcct ncctggttng cataanaaaa a                                    271


<210> 515
<211> 328
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(328)
<223> n = A,T,C or G


<400> 515
ccaatgaggg gcaaagtgag cgncnagaag angttttgac tgaaataaat caaacacaaa      60
aatntaagtt cacagtgaca gtttaaacaa aatccaaaca aactaacaac anaaacaccc     120
cttgntttgc ctctagtgga aggtgggana acacaanctc gtcctaaaaa ttgactagta     180
aaggggaaaa cccggtcatt tncctactct ttccangaaa tatctaatgc aagaaagaac     240
ttctnctcat tatacngaag gaatttngaa aaatgatgta tttttggaac acctaantga     300
aatactggaa cctgggcaag ttcaccac                                       328


<210> 516
<211> 220
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(220)
<223> n = A,T,C or G


<400> 516
ncctnagttg aaggacccca tgtacataca ggccagggga gcagtactag gntaactaga      60
aggatctcat ccccatatgt gggctcattt caagtctatg gatgactacc ttcattgntg     120
tgtgcgagat ggtttcaccc cttgaaaata tgggcacttc ancataanat agcnaaatct     180
ttataatgat caatncatcc tacctccttt tacatgcatg                          220


<210> 517
<211> 296
<212> DNA
<213> Homo sapien


<400> 517
tgcgatttct tccttgttgt ttgctttggt ctgtgttcaa tccagagagc ttaaattgtc      60
attattttgg gaagaaaacc tgtatttttg ttagtttaca atattatgaa atttcacttc     120
aggagaaact gctgggcttc ctgtggcttt gttttcttag tttcttttttc cgtgccgtgt     180
```

```
attttttaat tgatttttct tcttttactt gaaaagaaag tgttttatttt tcaaatctgg      240
tccatattta cattctagtt cagagccaag ccttaaactg tacagaattt ccactg          296
```

```
        <210> 518
        <211> 299
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(299)
        <223> n = A,T,C or G


        <400> 518
gaagatagaa aaatataaag ccaaaaattg gataanatag cactgaaaaa atgaggaaat      60
tattggtaac caatttattt taaaagcccg tcaatttaat ttctggtggt gcagaagtta      120
gaaggtaaag cttgagaaga tgagggtgtt tacgtagacc agaaccaatt tagaagaata      180
cttgaagcta gaaggggaag ttggttaaaa atcacatcaa aaagctacta aaaggactgg      240
tgtaatttaa aaaaaactaa ggcagaaggc ttttggaaga gttagaagaa tttggaagg       299


        <210> 519
        <211> 464
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(464)
        <223> n = A,T,C or G


        <400> 519
gctgcacatc ggaggaaaac tcggtaaagc agaatgaggt tgatatgttg aatgtatttg      60
attttgaaaa ggctgggaat tcagaaccaa atgaattaaa aaatgaaagt gaagtaacaa      120
ttcagcagga acgtcaacaa taccaaaagg ctttggatat gttattgtcg gcaccaaagg      180
atgagaacga gatattccct tcaccaactg aatttttcat gcctatttat aaatcaaagc      240
attcagaagg ggttataatt caacaggtga atgatgaaac aaatcttgaa acttcaactt      300
tggatgaaaa tcatccaggt atttcataca gtttaacaga tcgggaaact tctgtgaatg      360
tcattgaagg tgatagtgac cctgaaaagg ttgagatttc aaatggatta tgtggtctta      420
acacatcacc ctcccaatct gttcagttct ccagngtcaa aggc                      464


        <210> 520
        <211> 221
        <212> DNA
        <213> Homo sapien


        <400> 520
ctgatatcta cttatttaac acaagtctct aatacaatac aattttatta attttattcc      60
acatgcccca cattagatct ctagactcat tcatcctaca tacctacttt gtatcctttg      120
acctacatct ccctacttcc tcctccagtc cccacccccc acccactggt gctaaccact      180
gtttcattcc cttttttcatt ctacatatgt gagatcatgc t                        221


        <210> 521
        <211> 312
        <212> DNA
```

```
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(312)
        <223> n = A,T,C or G

        <400> 521
ctgatagctt tctcttcgcc tagattaata tcttctnnct tcccattcac agcccccacc      60
gacatcaaag ctttgctgtt ttatctgtca aaaatgtctt cacactttc attcttaaat      120
aaaagtgctg agtaaggaca ttttcacaac aaattttat tttacaaaac ttacaatgat      180
ttgaatccaa aacaactttc attatttaac tgtaaagtaa atatatattt tattaggngt      240
gtcttagttc attttgtgct gctttaacag tgtatccttg tgatagttgt ggggtggggg      300
aggggggaag ga                                                          312

        <210> 522
        <211> 336
        <212> DNA
        <213> Homo sapien

        <400> 522
ccttctttcc ccactcaatt cttcctgccc tgttattaat taagatatct tcagcttgta      60
gtcagaccca atcagaatca cagaaaaatc ctgcctaagg caaagaaata taagacaaga      120
ctatgatatc aatgaatgtg ggttaagtaa tagatttcca gctaaattgg tctaaaaaag      180
aatattaagt gtggacagac ctatttcaaa ggagcttaat tgatctcact tgttttagtt      240
ctgatccagg gagatcaccc ctctaattat ttctgaactt ggttaataaa agtttataag      300
atttttatga agcagccact gtatgatatt tttaag                                336

        <210> 523
        <211> 172
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(172)
        <223> n = A,T,C or G

        <400> 523
ngacnggcnc ntggctatgt ntatagatag ggctttaacc actatctgng aagcangagn      60
gacannattc ttgctctcac atnccacngg anacgtattt ctcttctctt acnagcgaag      120
aaccatctnt ttctaaagcc cccattctat tgcccttgct tttctctggc tt            172

        <210> 524
        <211> 471
        <212> DNA
        <213> Homo sapien

        <400> 524
ccagacctgc agaaaaactt agcacagctc aatctgctgt tttgatggct acagggttta      60
tttggtcaag atactcactt gtaactattc caaaaaattg gagtctgttt gctgttaatt      120
tctttgtggg ggcagcagga gcctctcagc ttttttcgtat ttggagatat aaccaagaac      180
taaaagctaa agcacacaaa taaaagagtt cctgatcacc tgaacaatct agatgtggac      240
aaaaccattg ggacctagtt tattatttgg ttattgataa agcaaagcta actgtgtgtt      300
```

```
tagaaggcac tgtaactggt agctagttct tgattcaata agaaaaatgc agcaaacttt      360
taataacagt ctctctacat gacttaagga acttatctat ggatattagt aacatttttc      420
taccatttgt ccgtaataaa ccatacttgc tcaaaaaaaa aaaaaacctt c               471
```

```
<210> 525
<211> 332
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(332)
<223> n = A,T,C or G

<400> 525
ccccnctgta ttccagcctg ggtgacccca tctcanggaa gaaaagttac cagatgtcgn      60
gggtaaaggt tggtcttcaa gtggcctcat aagttgtctt gcatttaaat tcagggaatt     120
cattggacca ataggttaca ttttcgttcc tttttgtttt tggttcatct gttaagcagt     180
ggggggcctaa ttactgctcc tttgtaaaaa cacattttcc caaagaacac tgaattaccg    240
ttcaaactgg ttgttgatgg gtaataaggg ctgtttttgc tgccccaaaa gggcttaaca     300
atttaggcgg atagtttact taaaaaaaaa aa                                    332
```

```
<210> 526
<211> 440
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(440)
<223> n = A,T,C or G

<400> 526
ccaggttacc tcccctaaca gatgtggtgt tctgangggt tggttaagtg cccgaggaaa      60
ataggcctta actgttaaca tctacagaga agaaagcatg gtcacactgg caaggagtaa     120
gaagggattg ggtaaaagaa aatgggagag aaaagggaaa aaagttttgg caagacaatt     180
gttccctgct aagaagctgc agggtgaaag ctttcctttc ttctattttt gtttttaatg     240
nctgtctctc tgatcagngg aaaagtgaaa atttctagta tctagcacta acgtatgacc     300
caactttgag ggatcacaag ctagaacaag ttgaggattt aaaatcctgg ataattatat      360
acttaaagtt catgagcata aagctcactt gaccatgcag aaatgctggg aagcagggtg      420
catggcatgg gaatacatct                                                   440
```

```
<210> 527
<211> 124
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(124)
<223> n = A,T,C or G

<400> 527
tttccatatg tctgttgggt gcataaatgn cttcttctga gaagtgtctg ttcctatcct      60
```

```
ttgcccctt tttgaggact taaatgttag acctaagacc ataaaaaccc tagaagaaaa        120
ccta                                                                    124
```

```
        <210> 528
        <211> 162
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(162)
        <223> n = A,T,C or G

        <400> 528
ctgcgggaga aatatgggga caagatgttg cgcangcaga aaggtgaccc acaagtctat         60
gaagaacttt tcagttactc ctgccccaag ttcctgtcgc ctgtagtgcc caactatgat        120
aatgtgcacc ccaactacca caaagagccc ttcctgcagc ag                          162
```

```
        <210> 529
        <211> 409
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(409)
        <223> n = A,T,C or G

        <400> 529
cctttaaaat atagcttata aaatgtatac tatnngccag gagagctcac atttttctgc         60
agttttccag tggacctgcc tatggaatac tgtaaagaaa aatctgcaaa aatattccta        120
gcaattgaat cagtgctttt aaataaaaga agtggagagg ggcttggtta aattattctg        180
acaagttttc ttgctagtgg ttgccaaaat taaggatatt tgaagtgtcc tatcacccaa        240
atttggcttt aagaaaaagc tatattctgn gtctataggg tgaagcccac actatctgtg        300
ctgcattctc aatgatacaa tacctatctg gaaactttcc tgttttgcca atgggtgcac        360
aaatctaaaa cattttatca caaaaggtac ttgaatttaa atttctttt                   409
```

```
        <210> 530
        <211> 325
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(325)
        <223> n = A,T,C or G

        <400> 530
ccgccagtgt gatggatatc tgcagaattc gccctttcna gatttgngcc cgggcaggtc         60
catggctagg attatagata gttgggtggt tggggnaaat gagtgaggca ggagtccgag        120
gaggttagtt gtggcaataa aaatgattaa ggatactagt ataagagatc aggttcgtcc        180
tttagtgttg tgtatggcta tcatttgttt tgaggttagt ttgattagtc attgttgggt        240
ggtaattagt cggntgttga tganatattt ggaggtgggg atcaatagag ggggaaatag        300
aatgatcagt actgcggcgg gtagg                                             325
```

```
<210> 531
<211> 173
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(173)
<223> n = A,T,C or G

<400> 531
ccaattgatt tgatggtaag ggagggatcg ttgaccncgt ctgttatgta aaggatgcgt        60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct       120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt tag              173


<210> 532
<211> 395
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(395)
<223> n = A,T,C or G

<400> 532
caggtcctac tatgggtgtt aaattttta ctctctctac ngggtttttt cctagtgtcc         60
aaagagctgt tcctctttgg actaacagtt aaatttacaa ggggatttag agggttctgt       120
gggcaaattt aaagttgaac taagattcta tcttggacaa ccagctatca ccaggctcgg       180
taggtttgtc gcctctacct ataaatcttc ccactatttt gctacataga cgggtgtgct       240
cttttagctg ttcttaggta gctcgtctgg tttcggggggt cttagctttg gctctccttg       300
caaagttatt tctagttaat tcattatgca naaggtatag gggntagtcc ttgctatatt       360
atgcttggnt ataattttc atctttccct tgcgg                                   395


<210> 533
<211> 290
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(290)
<223> n = A,T,C or G

<400> 533
ctgaaccatt atgggataaa ctggtgcaaa ttctttgcct tctctacttc tcactgattg         60
aacataagct tccagggctc ccctgaaaac caaaatgaaa acaatgtcaa aatattagat       120
aaatcacata aaacagttaa ggggatacca atatataaaa attattaggt aagctcattt       180
ctggaactgt taatgctcgg tttcacaatc caagnngacc aacagccttc actcagntac       240
tggnagtgnt actatggtta ctacngntac tacctttagt gtnaaaaact                   290


<210> 534
<211> 334
```

```
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(334)
<223> n = A,T,C or G

<400> 534
ccgccagtgt gatggatatc tgcagaattc gcccttagcg agnnagccgg gcaggtccat      60
ggctaggttt atagatagtt gggtggttgg tggggnatga gtgaggcagg agtccgagga     120
ggttantttg tggcaataaa aatgattaag gatactagta taagagatca ggttcgtcct     180
ttagtgttgc gtatggctat catttgtttt gagggtagnt tgattagnca ttgttgggng     240
gtaattantc ggctgttgat ganatatttg gaggtgggga tcaatanagg gggaaatana     300
atgatcagtn ctgcggcngg tnngacctcn gccc                                334


<210> 535
<211> 557
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(557)
<223> n = A,T,C or G

<400> 535
nccataagct tcagtgcgca aaaggtcaag gccagtgtta atttgttatt tcttaaataa      60
ctttcccttt catttttaaa ttataaattt aacttctaac atgtttttatg gttaaaattg    120
tactttttttc ctttagcgac attcaaatgc atcacaatca ctttgtgaaa ttgttcgcct    180
gagcagagac cagatgttac aaaattcagaa cagtacagag cccgacccccc tgcttgccac   240
tctagaaaag tatgtgtaaa actctgttct tgttcttctt tcatattgat gctgttccat     300
gtgttaccat tgtgagtggt tggtaagtgt tccttatgtg ggaatcatgt gccttgaaaa     360
taaccttggg tgggtgagaa ggtagggaaa cctgcttctt ttatctcaag taaaagtttt     420
ggcagggtaa agaagataaa tgacatttat atctagactt ttgagttttc caattatttg     480
gtaaaaatgg gaaattctgt agaagcccctt ccttaaaaat ggggggaagtc catttnanaa   540
aattaactgg taggtca                                                   557


<210> 536
<211> 372
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(372)
<223> n = A,T,C or G

<400> 536
gttccaacct tcatttctga aactgttcta gagcacngtg tctttctcgt agttcataac      60
ttacccccttc agtctagaat tagaattaca ttatctgttt tactacttta ctagactgta    120
agctcctaga agataaggac tagggagttc atctctgtat tccaccagaa ggtacagtga      180
ctcatatcta gagtctttag atgaaactta ctgagttgaa taacttaata tatttctgtt     240
ttcattccca agggaggcca tgtctggaga tagaccttga atttaataaa ttttaggcac     300
```

```
tataccattt cagtggagaa aattgttggg aaatttgggg ggatggatat ataaggggga      360
ggaagtcact gg                                                          372
```

```
        <210> 537
        <211> 284
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(284)
        <223> n = A,T,C or G

        <400> 537
ccttctgatg caaacagaaa ggaaatgttg tttggangcc ttgctagacc tggacatcct       60
atgggaaaat tttttggggg aaatgctgag acgctcaagc atgagccaag aaagaataat      120
attgatacac atgctagatt gagagaattc tggatgcgtt actactcttc tcattacatg      180
actttagtgg ttcaatccaa agaaacactg gatactttgg aaaagtgggt gactgaaatc      240
ttctctcaga taccaaacaa tgggttaccc agaccaaact ttgg                      284


        <210> 538
        <211> 293
        <212> DNA
        <213> Homo sapien

        <400> 538
gtacatagta ggtgtatata tttatgggct atataagatg ttttgataca ggcatgtaat       60
gtgaaacaag cacatcaaca agaatggggt atccatcccc taaaacattt gtcctttggg      120
ctacatgtca tttcctaatg taaagaaaat ggacagacag aaccaacatt gatttgactg      180
ggtgaaaaag tccatttgag ttgggagcag gggttgtgtt cctggatttg ggttgttagg      240
acagtgtaaa aaggcttcac aggggaacat tcttttctga taaaggaaag cag            293


        <210> 539
        <211> 468
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(468)
        <223> n = A,T,C or G

        <400> 539
tttcnataaa ctttattttt agagcagttt taagnnggta gcaaaattga ttagaaggna       60
cagagatgtc ccatacacct cctactccca cacatgcaca gccttcccca ttatcaatag      120
cccccaacag agggatacat ttgttaacaa ctgacgaacc tacatatcat tatcacccaa      180
agtccacagt ttatattatt ccttctggag aattttcaaa tacagaaatt cctctaccag      240
gaataaacta ncaatttcct ctcggctttc tataaattta attattattt cagaaattag      300
cctatcttta caggagaaaa tgttataaac catgaaaaga ctatcaaata cacaaggaag      360
tgaatgntat ataaaaaatg taccatctcc taaacaacta cctgcattcc cttcttgttg      420
gtaagttata atttgnnata gttctgatca tctgtttaat taatttgc                  468


        <210> 540
        <211> 397
```

```
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(397)
<223> n = A,T,C or G

<400> 540
ctgttttatt aattcccca tttgcagcac acttntctct tccaacattc atcagtcaga      60
tcagagtcca cggtctttc aaaatttaga taaactggct tacattttgt aatgatgtcc     120
ccagacaaca ccccactcca acccattctg tttgttacta ttagtttaca acatgcatgt    180
gcctttactt tcattttcat agtatttaaa aatggaaggg cactcccaaa tttactttaa    240
cccctttaat aatctctctc ctcctgctct ctctggtcct ccagacaact gttgatttac    300
tttcctttat gatggattag tttgcatttt ctagaatttt atatgactga catataaagn    360
ttttatgttt ctcccctttg ggtttcttca tgtggca                              397

        <210> 541
        <211> 248
        <212> DNA
        <213> Homo sapien

        <400> 541
cctagatagg ggattgtgcg gtgtgtgatg ctagggtaga atccgagtat gttggagaaa      60
taaaatgtgc atagtggggg ttttatttta agtttgttgg ttaggtagtt gaggtctagg     120
gctgttagaa gtcctaggaa agtgacagcg agggctgtga gtttaggtg gaggggatt       180
gttgtttgga aggggatgc gggggaaatg ttgttagcaa tgagaaatcc tgcgaatagg      240
cttccggc                                                              248

        <210> 542
        <211> 366
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(366)
        <223> n = A,T,C or G


        <400> 542
aatcggccct ctagatgcat gctcgagcgg ccgccagtgt gatggatatc tgcagaattc      60
gcccttgagc gatancgcgg gcaggtccaa ttgatttgat ggtaagggag ggatcgttga     120
ccncgtctgt tatgtaaagg atgcgtaggg atgggagggc gatgaggact aggatgatgg     180
cgggcaggat agttcagacg gtttctattt cctgagcgtc tgagatgtta gtattagtta    240
gttttgttgt gagtgttagg aaaagggcat acaggactag gaagcagata aggaaaatga    300
ctatgagggc gtgatcatga aaggtgataa gctcttctat gataggggaa gtagcgtctt    360
gtanac                                                                366

        <210> 543
        <211> 460
        <212> DNA
        <213> Homo sapien

        <400> 543
```

```
cctactatgg gtgttaaatt ttttactctc tctacaaggt ttttcctag tgtccaaaga    60
gctgttcctc tttggactaa cagttaaatt tacaagggga tttagagggt tctgtgggca   120
aatttaaagt tgaactaaga ttctatcttg ggcaaccagc tatcaccagg ctcggtaggt   180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt   240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag   300
ttatttctag ttaattcatt atgcagaagg tatagggggtt agtccttgct atattatgct   360
tggttataat ttttcatctt tcccttgcgg tactatatct attgcgccag gtttcaattt   420
ctatcgccta tactttattt gggtaaatgg tttggctaag                        460
```

```
        <210> 544
        <211> 116
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(116)
        <223> n = A,T,C or G

        <400> 544
ccgccagtgt gatggatatc tgcagaattc gccctttgga gngctngcgc ccgggcaggt    60
ctgtttcagc agctcctcct tcttcttccc gcgangatct cgagccttga tcttgg       116
```

```
        <210> 545
        <211> 380
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(380)
        <223> n = A,T,C or G

        <400> 545
cgacggatcg atnagctnga tatcgaattc ggacgagcat ggcgtattgc tgcagatatg    60
gattcttcag aatgctccat gacaaatgta ctgacgggaa gncnatctaa aggaggcatt   120
gtnatgagag aaaggtctcg agctccagat aaagagagat acagagttct tggaattgga   180
gttgcagaaa cagtaagaca atcgattgtg gggaagcgtt cttttagaga atctttggcc   240
ttcactccaa agcgttgttc ttcatcaata ataagtagct cgtgccgaat cctgcagcc    300
cgggggatcc actagttcta gagcggccgc caccgcggag gagctccagc ttttgttccc   360
tttagtgagg gttaatttcg                                               380
```

```
        <210> 546
        <211> 418
        <212> DNA
        <213> Homo sapien

        <400> 546
ccagggcaat taggcaggag aaggaaataa agggtattca attaggaaaa gaggaagtca    60
aattgtccct gtttgcggat gacatgattg tatatctaga aaaccccatt gtctcagccc   120
aaaatctcct taagctgata agcaacttca gcaaagtttc aggatacaaa atcaatgtac   180
aaaaatcaca agcattctta tacaccaata acagaccaac agagagccaa attatgagtg   240
aactcccatt cacaattgct tcagagaata aaatacctgg gaatccaact tacaagggat   300
gtgaaggacc tcttcaagga gaactacaaa ccactgctca aggaaataaa agaggataca   360
```

```
aacaaatgga agaacattcc atgctcatgg gtaggaagaa tcaatatcat gaaaatgg          418
```

<210> 547
<211> 172
<212> DNA
<213> Homo sapien

<400> 547
```
cctgaggttg ggagaaattt tgtccatttc tttagaacca aaattggcaa ccagagagta          60
tttggatgtt acacaaaata tctagtttcc ctttctagcc taaattgggt tgtttatagc         120
acccgtctct ccatttgaga aaaatggtta ggatgctggt gcagggatga gg                 172
```

<210> 548
<211> 367
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(367)
<223> n = A,T,C or G

<400> 548
```
ggtctgactt aagagaaaca atggaaggca agaggcagta gaataatata ttcaaaagat          60
gcaaaggaaa aaaacctctc agccacgaat tccttatcca gcaattattt ttcaaaaatg         120
aaaataacac aaagacttag ccagataaac agaaacatta actgaagttg ttgctggcag         180
acctaccata taaaaataaa aaactctaaa aaaattccta tggctaaaag caagttacag         240
aagacagtca cttgaatcca cattttaaaa aaagcactga tatacgtaat attgacatta         300
taaaagacag taaaaatgca tttcttcttt ataataaatn gcttattaaa taacatgtgt         360
ataatgg                                                                    367
```

<210> 549
<211> 418
<212> DNA
<213> Homo sapien

<400> 549
```
ccaaatcaga acctagagtg agcattctat aaactcacct ttgctttgat ccttgaagat          60
cacaagtttt gatactgttg aaatctctac tctttcaaca ctttaattaa atggcattta         120
gaatttcata tacttctgtt gttgtttcca caatcttaaa ctggatttag aaatacttat         180
aatgtaaatg caagagcttt aacttagtaa ccgtatttcc tattttttgt tgtttttctt         240
ttgccagaat ttctgtttgt ctacaataaa gtccagcgaa atacagtatt tggttaggtt         300
acttgttaac ataaaatttt atcatttgta gagtttttac ttaaccttcc tattctctag         360
tctctataat ctttcaatga agataaccag ttacgaatat ctcctatacc atattagg          418
```

<210> 550
<211> 234
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(234)
<223> n = A,T,C or G

```
      <400> 550
cctacccgcc gcagnactga tcattctatt tccccctcta ttgatcccca cctccaaata      60
tctcatcaac aaccgactaa ttaccaccca acactcacaa caaaactaac taatactaac     120
atctcagacg ctcaggaaat agaaaccgtc tgaactatcc tgcccgccat catcctagtc     180
ctcatcgccc tcccatccct acgcatcctt tacataacag acgaggtcaa cgat          234


      <210> 551
      <211> 542
      <212> DNA
      <213> Homo sapien


      <220>
      <221> misc_feature
      <222> (1)...(542)
      <223> n = A,T,C or G


      <400> 551
cacccctacc ccnntcctca taaaagttnc tctccctgga tcctcttttt ccctcatgag      60
tgcccggttg cccaagtcaa aaacctggga gtgatataaa ctccccacac atccagtcag     120
tcactcatca actctattga ttctgtctgc taaatatatn tcaattgtat taacttaaac     180
atatgcatan ggcacttttct tcttcactgc atttttgtgg gctgcactta cctttcaggt    240
aacgacaaca ctggcccctc ttgcccttct agtcagaagt gccaaaatga tgagagctag     300
ccatgacaaa cccacagcca acattacact gaatgtgcaa aactggaagg gcatccaaac     360
agaggagggg agagaggaat agacaggaag tcaaactgtc tctgtttaca gatgacatgt     420
ttctatatct ataaagcccc atagtcttgg ccccaaagct tcttctgctg ataaacttta     480
gcaaagtctt agcatacaaa atcaatgtgc aaaaattact aacagtccta tacatcaagt     540
ca                                                                     542


      <210> 552
      <211> 411
      <212> DNA
      <213> Homo sapien


      <220>
      <221> misc_feature
      <222> (1)...(411)
      <223> n = A,T,C or G


      <400> 552
cctggntgac aaggaggtgc ctgtnatgtg aagatttgag gaaagagcat tccaggcagg      60
gggaaggctt gatgcaaagg gtctactgca ggcattagct gagcttattt aaagatcaga     120
atgaaggcca ttgtggctag aacagagtgg acaggaagga atggtaccag gcaaagctga     180
agaagttggc aggattgagc tctcataant catggcaaag agttcccatt tcattgtttg     240
acggaaataa attggaaggt cttaagtagg agaagatttg attagattta cattttacga     300
agaagcactc tggatgttat gtgaagaaat ggcctttgca gggcaagggt ggaaacaaag     360
agatcagtta ggaaattatt ggagtagctg aggattggat gaggggatgt g             411


      <210> 553
      <211> 631
      <212> DNA
      <213> Homo sapien


      <220>
```

```
<221> misc_feature
<222> (1)...(631)
<223> n = A,T,C or G

<400> 553
ccgggattag aactaaaaca agtgagatca cccctctaat tatttctgaa cttggttaat      60
aaaagtttat aagattttta tgaagcagcc actgtatgat attttaagca aatatgttat     120
ttaaaatatt gatccttccc ttggaccacc ttcatgttag ttgggtatta taaataagag     180
atacaaccat gaatatatta tgtttataca aaatcaatct gaacacaatt cataaagatt     240
tctcttttat accttcctca ctggcccccT ccacctgccc atagtcacca aattctgttt     300
taaatcaatg acctaagatc aacaatgaag tattttataa atgtatttat gctgctagac     360
tgtgggtcaa atgtttccat tttcaaatta tttanaattc ttatgagttt aaaatttgta     420
aatttctaaa tccaatcatg taaaatgaaa ctgttgctcc attggagtag tctcccacct     480
aaatatcaag atggctatat gctaaaaaga gaaaatatgg tcaagtctaa aatggctaat     540
tgtcctatga tgctattatc atagactaac gacntttatc ttcaaaacac caaattgtct     600
ttagaaaaat taatgtgatt acaggtagag g                                    631


<210> 554
<211> 558
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(558)
<223> n = A,T,C or G

<400> 554
ccaggntagt ctccaactcc tgaccttagc tgatccaccc acctcggcct cccaaagtgc      60
tgggattaca ggcatgagcc actgcgcccg gccaaacttg atatgcattt ttaaataagt     120
taatacatta ttcatggttt agtctcatta tatattctat ggtccacttt gaaatttcat     180
ctaaccaaaa tcatcttcat cctgcaattt gaggtttgga cacaatgggg attgatcagt     240
aatttcttca tatgcccttt ctcaaggaaa tagtttccta tgaaaaaaaa gtcctatgtt     300
ttcatgtaag ttctcttttt ggagaagaaa aggagacatt cttacttagc actctcagtt     360
ttacaaaacg ctgccaacct taaaatttgt ctattgattc ccaaggcaca caaccaatag     420
tctgtcaata acccggaata acatttcttt aaggccccag taactttcac atgtttgggt     480
tccaatcctc acctagaatc ttgttaagaa aagtaaacca ttcactcctc tagaaactct     540
aaggttgctt cttagggg                                                   558


<210> 555
<211> 212
<212> DNA
<213> Homo sapien

<400> 555
ccaggtattt gcataatggc ttttcttctg ttgcctttgt tcctttgtgg ccccagctaa      60
ttgcctgaga gtgccactgt tagttttcaa ctctttctga tagaaaccct gtgtactaac     120
atggaaatct taggtaatct gctttttcaa agcacaatgc agaatttatt ggcggtggtg     180
taactttaag aatatccgag aagccaccaa gg                                   212


<210> 556
<211> 219
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(219)
<223> n = A,T,C or G

<400> 556
ccatgtgtct atctggagag aaggggaaac agcaagtgca aaggccctga gatggaacat        60
atctggagaa ttcgaagaat ggtaagaagg ccagagtgga gcagaacaag tgtgggagag       120
agttgtagga gatgagatca aaggctagga atgaagtgta aggccatgtc atgtgacctt       180
gtatgtcctt gtaaggcttt ttttttttttt tttnancct                            219


<210> 557
<211> 482
<212> DNA
<213> Homo sapien

<400> 557
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga        60
gctgttcctc tttggactaa cagttaaatt tacaagggga tttagagggt tctgtgggca       120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt       180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt       240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag       300
ttatttctag ttaattcatt atgcagaagg tatagggggt agtccttgct atattatgct       360
tggttataat ttttcatctt tcccttgcgg tactatatct attgcgccag gtttcaattt       420
ccatcgccta tactttattt gggtaaatgg tttggctaag gttgtctggt agtaaggtgg       480
ag                                                                      482


<210> 558
<211> 679
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(679)
<223> n = A,T,C or G


<400> 558
ctgtnaaaat tctgaaccta tccccaaaag aaaaaccgtg aaatacaagt tttaggaggt        60
ggagcaaaga aaagccaagt tatttaaaac caataaacac aagagacaat tctgctggag       120
aatttacttt ctccaaaaca tcaaatggac tttaaagcag aagaccacat tttatgagaa       180
agttatgtca ctgaaaagct tcatgtaaag tgactttgta aatggaatat ttttaaatga       240
taaaaagaaa ataacttttc caggaatcct ttggagaggc tgataaccag atattaaatt       300
atcaattttg ccaaagtgga cttttaaaaa atgtgttact tttaaaaact aacttgaaag       360
aatttatgag gcaatctatc tgagtatgtt tattgttgct ccattggctt tcaggatttt       420
ggtcatttca ctgttaactc ttacatcaga gaataaagaa aagaaaatga aactttgtta       480
ggaactggga tggaaaatgt agtcccagac agatctactg acctcgactg agtttcagaa       540
atatcccagg attttggtta ttcatgcctt tcttttgtga ctttctttca aattagccaa       600
ttaaagatac cccttcaatc accggtgaca tcagtacaac agttttttcaa cagttttctc       660
tctcctgacc aaacagttt                                                    679


<210> 559
<211> 488
```

```
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(488)
<223> n = A,T,C or G

<400> 559
ccccactgta ctccagcctg ggtgacccca tctcaaagaa gaaaagttac cagatgtcat      60
gggtaaaggt tggtcttcaa gtggcctcat aagttgtctt gcatttaaat tcagggaatt     120
cattggacca ataggttaca ttttcgttcc ttttttgttt tggttcatct gttaagcagt     180
gggggcctaa ttactgctcc tttgtaaaaa cacattttcc caaagaacac tgaattaccg     240
ttcaaactgg ttgttgatgg gtaacaaggg ctgtttttgc tgccccaaaa gggcttaaca     300
atttaggcgg atagtttact taaaaaaaaa aatcctttgg agacatactg aaaatgcaaa     360
ctagtttcta aattatcaat tccctacatg aanaagcagt ttgccanagt ttagtctcan     420
aaaatgactg gttggctcta tttaaatcan aacccaattt ctacgcacct gcccgcccgg     480
ccaagggc                                                             488


<210> 560
<211> 602
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(602)
<223> n = A,T,C or G

<400> 560
cctanttaag aattccttgc cttagtggtg aacaaggact aaacacagac aatgggtgaa      60
acacagacgc taattcacat aacagagagt aggcaacctt aagaatgaat tgatgcagac     120
tcctatagaa ttcctctgtt atgactgggt tcttattttc tcctccttgt atgtagttga     180
aatttcatca ttatgaatag ttccttggat ctttttttaa agttgtgaat gcgagtgttt     240
ggctttgtaa tacaactttt tagtatccag aagataacca gtgctctacc aataaagatc     300
ttttgataca aagggtttta acttctgcca gttcttactc attttttttca ggttttttat     360
acatttctta aacaacacat acattatgta aaatataaga attaatgtac attctcaagg     420
ccagattcag tgacaaaatg cactacccga atctagtaac acatttactc cttgctgcat     480
ataagtggcg tgtaagaaat acagggtata ttgttttgtg atccatgcag taaatgttca     540
caaatatcag gcaaacaact agacgntctt cagctactaa aattaactgt cccagtcaca     600
aa                                                                   602


<210> 561
<211> 683
<212> DNA
<213> Homo sapien

<400> 561
gtctattttt aaaagaaag aaaaaaacca cttttttata gtccctagct ttgccatatg      60
cccgccttaa gtggaaggaa agttaatcac ttaactatgt tttataaaaa gaaaaaaggg     120
cttggaatgc tattactgtt cacacaaagt atgattctgt ttgaataagg caaatgctcc     180
ttttttttaaa aaaagacatt actgtaatat caaaaaccgt ggcagtttgt atacaactct     240
gggcttgatt ttttttaaaa aaacagaatg aattgatgtc ttattttata aatgttctat     300
atttattagg agaaaacttt atattgcctt ttttatcaat catgtaacag gcttatagct     360
```

```
ttccaacaga gctgcttgcc aaacaatttt ttttgtttat taaacagtgc tgaaacaaac      420
aggatcagca tttacttaag atgttaagaa tgaggacttt taatcagccg aaccaagata      480
ttgttacctg tatgcattcc caaagtctag atgctcagta tgttcagtca tatctttcag      540
aatcagtgaa ccgattaccc tttttttggt attcactcta catctgccaa cctagttcac      600
cttggttttg tgtctgctgt agaagggaac cataacttgg ttaaaccgta gggattatca      660
ttgtatacat gctgtgaaca tgt                                              683
```

        <210> 562
        <211> 420
        <212> DNA
        <213> Homo sapien

        <400> 562
```
gcactttttt tccagtaagg attcatctct tgctctccta tatggtcatt atattttata       60
ttttacatat ttataaacat gacatatgta tttatgttcc acaaagggct ttgaatagaa      120
tttacacata gagttccctg ggttgatgtg tttatcaaaa tggaagataa agtgaattaa      180
ttacttaaat atttaacact attgaataga aataatttcc ccaatattgc ttcatgattt      240
agacagtcta ttaaatgttt aagcaaggca ctagactaag tttattaaga caaattttgg      300
aatatgtgca gaaatatgac ctggctaata gtacagagtc aaagctggtt gaatggtgtt      360
atatagtgga ttcagattga tgtggcagtg gtggttacac tagggggcact aaggttatcc      420
```

        <210> 563
        <211> 482
        <212> DNA
        <213> Homo sapien

        <400> 563
```
ctccacctta ctaccagaca accttagcca aaccatttac ccaaataaag tataggcgat       60
agaaattgaa acctggcgca atagatatag taccgcaagg gaaagatgaa aaattataac      120
caagcataat atagcaagga ctaaccccta taccttctgc ataatgaatt aactagaaat      180
aactttgcaa ggagagccaa agctaagacc cccgaaacca gacgagctac ctaagaacag      240
ctaaaagagc acacccgtct atgtagcaaa atagtgggaa gatttatagg tagaggcgac      300
aaacctaccg ggcctggtga tagctggttg tccaagatag aatcttagtt caactttaac      360
tttgcccaca gaaccctcta aatcccttg taaatttaac tgttagtcca aagaggaaca      420
gctctttgga cactaggaaa aaaccttgta gagagagtaa aaaatttaac acccatagta      480
gg                                                                     482
```

        <210> 564
        <211> 302
        <212> DNA
        <213> Homo sapien

        <400> 564
```
ctggaagtga aggtactaat atacaaatgg ctcttgtttc tgaatatgtg atataatttg       60
tgaatctttg gaaactgaat tttttctatg gagtgcaaat atagaagggt tattttacaa      120
tgtttgttgt gaaaagaatt cactttgtaa acaactatta aggctggaag tttagtgaag      180
gtgcatagtt ttgaaagcta cacaggtgaa aaatcaaact tattgtttgt aattttgctg      240
ttacatgtta agttactttg acagcaattt ctaatgata atgtgattta tgatttaaaa      300
gg                                                                     302
```

        <210> 565
        <211> 554
        <212> DNA
        <213> Homo sapien

```
<220>
<221> misc_feature
<222> (1)...(554)
<223> n = A,T,C or G

<400> 565
ccanngtgac atcatggcaa tacagcaaga attctgnnat ttatttagaa gcctcaagga      60
gaaggatcct ggagcccctg aatgagagtt tcttctccat gcctctcccc agtcaaaata     120
catggaaata ttcatagaag cattgtaccc agcatgataa ggaaggatgg agaatggttc     180
cttatatctc tgttcacaag acatcaacac tcttaagtaa ctgtatgaaa taaattctct     240
gctgaaagca aataaaccat ctgaaaggtc ttctggttac ttacacagat ttcctagaga     300
atctgaaatc agcctaacag ggaagattaa tttttaaatg aatccaagtt aatgaaagca     360
aagaactctt atacagaaat acattttcct attataaagc aggactacct tccctaattt     420
ctgatagacc taggacaatt tgaatgggca ttgaaattct tttggttgaa ttacgcaaac     480
aagcaaagga aaagtctcaa ttattattgg aaaatttggg gagagattat tatctcttga     540
tctcctagtn natt                                                       554


<210> 566
<211> 631
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(631)
<223> n = A,T,C or G

<400> 566
ncgaagctgt gaanncattc acacggaatc tgganggtat tactgtaact tcttataata      60
cataatataa aagttttttga aagatatata cacaattaac ccctaaacaa cacactatct     120
gattctcaaa agcaatggct atttaacaag atgtaaaagg acaataacat atcaaagaac     180
tttcacacac ctaaagatag catttagcag caagttagtc agacaaaaca aacataaata     240
tcttcacatt tcctatgttt gtttttaact ttacttcata aagccactga taattgaggt     300
ttctttcaag tataagattt ctaaaattaa aaactgtttt tgacatattt ttataaagaa     360
ataaaaagca aaacgcaatc caactattta tatgagtccc tcttctccaa cagctttaga     420
tgtttttctg agtacttttt acacagaata ttttattaa aatcagttct aattcattta     480
tgcagattag gggaaaatga ttcataataa attaacttta aaattacctt ctatctgctt     540
ctacctctat cccccccatca ccaccaaatc tgttgctaca gtgaactgta gccaatgtct     600
gtttgagggg gcccaaagca tctggtaatc t                                     631


<210> 567
<211> 510
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(510)
<223> n = A,T,C or G

<400> 567
cctatnatag cttctctagc tatcatactc caatcagcna aaaatgagaa aatgttgaga      60
aatagaagat aattcctcat ttaaggncac cttctanaat ttgtgcttaa nantctgttt     120
```

```
tcttctcatg ggccagcact tcggcaactg ggaaaaatta ngngtacagg gatctaggna      180
atactgttta tttgagcaat aatatattgn gctaacgttc aggcatccta ttactgagaa      240
ataagggaaa atgagtgtaa agtacaacta agagtctcgg ctacagggaa aaataccatc      300
agttaaatat ccatagtcct agagcattta tgtaaaactg caatttgaat cctgcaatac      360
attttggctt tttcctcagt gataccatgt gtgggaagtt gttctgtcaa ggtgggtcgg      420
ataatttgcc ctggaaagga cggatagtga ctttcctgac atgtaaaaca tttgatcctg      480
aagacacaag tcaagaaata ggcatggtgg                                       510
```

        <210> 568
        <211> 180
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(180)
        <223> n = A,T,C or G

        <400> 568

```
ttaatntgac ncacgcttat gcggaggaga atgntttcat gttacttata ctaacattag       60
ttcttctata gggtgataga ttggtccaat tgggtgtgag gagttcagtt atatgtttgg      120
gattttttag gtagtgggtg ttgagcttga acgctttctt aattggtggc tgcttttagg      180
```

        <210> 569
        <211> 237
        <212> DNA
        <213> Homo sapien

        <400> 569

```
ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt       60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct      120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt caggaaaagg      180
gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaag        237
```

        <210> 570
        <211> 352
        <212> DNA
        <213> Homo sapien

        <400> 570

```
ctgtctctcc atttagagcc ccagttggtc ctgacctctt acaaatttgg tgttttcact       60
ttgatgttta tgaaccgatt gcattaaaaa tgcaggataa tgattcaggg ttagagaaac      120
tattatttat acaaatgtgg ttaacacctc atcattttaa attggctgtg ctaataatgc      180
tcattgtgct cttcagggtt atgtgtgtgt gtgtgtgtgt gttttgcctg aatctgcaac      240
ctacatttgc tctggcagta tgttgagtat atgctagaat agaatggacc taggcaactc      300
taaggtccta caactaaata cacttactta ggaaacctcc taaataagta gg             352
```

        <210> 571
        <211> 402
        <212> DNA
        <213> Homo sapien

        <400> 571

```
ctgattttaa caataactac tgtgttcctg gcaatagtgt gttctgatta gaaatgacca       60
```

```
atattatact aagaaaagat acgactttat tttctggtag atagaaataa atagctatat      120
ccatgtactg tagtttttct tcaacatcaa tgttcattgt aatgttactg atcatgcatt      180
gttgaggtgg tctgaatgtt ctgacattaa cagttttcca tgaaaacgtt ttattgtgtt      240
tttaatttat ttattaagat ggattctcag atatttatat ttttatttta tttgtttcta      300
ccttgaggtc ttttgacatg tggaaagtga atttgaatga aaaatttaag cattgtttgc      360
ttattgttcc aagacattgt caataaaagc atttaagttg aa                         402
```

```
        <210> 572
        <211> 70
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(70)
        <223> n = A,T,C or G

        <400> 572
tggatccgag ctcggtacca agcttggcgt aatcatggtc atagctgttt cctgtgntcg       60
ttttacaacg                                                              70


        <210> 573
        <211> 423
        <212> DNA
        <213> Homo sapien


        <400> 573
ccaatggttt cttagtgaaa gagtacacta gctctgaatg caatgccctc agaaagatat       60
cattcataga gacatacaaa gcacatggca acatgacatt ggaatacacg attctgagca      120
tcttcattca tgaccaacct ggctatagat ttcagatgtc ctcttggctc gaaggatatc      180
tgggatatcc atgctcactt gcattccttt ccctttaatt tcattttcta agtccttctt      240
gtattgtttc taaaagaaca gaaaataatc ttggagcttt gcttaagctt taatagcgat      300
gttgaaattt acatgtttga atctcaaagc cacccatgtg gaaagaaaac ttatgctctt      360
tccagctatg attcacggca tttattttaa actttgtatc ttgctgctgt cttacctggc      420
tgg                                                                    423


        <210> 574
        <211> 129
        <212> DNA
        <213> Homo sapien


        <400> 574
ctgttaaaag aacaaactta gcaatatata acagtttgct aacaggattt ttgactattc       60
actttgcgag ttatttttaa aaatccactt ttttactgag tcttactaca taccaggcac      120
tgtacttgg                                                              129


        <210> 575
        <211> 684
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(684)
```

<223> n = A,T,C or G

<400> 575

```
ccagatntga cttttcaaaa ctactcacat tgtgaaaaan gcaggaacaa atctagtttc     60
aagttcagca tgccgttccc tgtttaattc ataaaacaca actggcagaa gtattacttg    120
aagcaaaaca aaagtaacgt gggaacttgc ttatttgcta agccacaatg tatttttcca    180
ggaatagcat aaatttgcca tctttcttgt gtctatggaa aaggggttta gaattgtttc    240
actaaaaatt aaatttctat attgtcaaac atgattgtat actcaaattt taaaatgtga    300
agggaacact tactaagcat ttcctgggta tgccactata ttaagtccta gtaatatgat    360
atagtttatt tcaatttttt ttcaactcat acttccttta aaatagcact gaccaaaaga    420
aagttaacat gagcttcatg tacaatttttt aatcttttg cagaaaaata aactgagaaa    480
ggctaaaatt gttttatttta agccactata ccaagacata ttgatttcac caatataaaa    540
attgagatag tttacatttt ttggtacatc tttaaaatct ggtatgtatt tttatactga    600
cagcacatct caatttggac aagctacatt tccagggctc aatagtcacc atgaatctca    660
attgtaatca aagaggttgg cctg                                           684
```

<210> 576
<211> 134
<212> DNA
<213> Homo sapien

<400> 576

```
ccttatttct cttgtccttt cgtacaggga ggaatttgaa gtagatagaa accgacctgg     60
attactccgg tctgaactca gatcacgtag gactttaatc gttgaacaaa cgaacctta    120
atagcggctg cacc                                                      134
```

<210> 577
<211> 133
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(133)
<223> n = A,T,C or G

<400> 577

```
ctgtctctcc attnagaagc cccantnggt cctnacctct tacaaatttg gtgttttcac     60
tttgatgttt atgaaccgat tgcattaaaa atgcaggata atgattcagg gttaganaaa    120
ctattattta tac                                                       133
```

<210> 578
<211> 200
<212> DNA
<213> Homo sapien

<400> 578

```
cctcaaatct atcttcaaag gtgacccagc aatcagtgtc aatgcctta ctgtagttaa     60
cctggtaatt tcattcttta gtctctccaa gaaaatctga agtgtattag gcaagtcaga    120
acccaaattg tctccaaggt tgcaaataat ttgtcccata caggaaatag ccctttcctt    180
gacttcctga tcaatgtcag                                                 200
```

<210> 579
<211> 402

```
<212> DNA
<213> Homo sapien

<400> 579
ctgattttaa caataactac tgtgttcctg gcaatagtgt gttctgatta gaaatgacca      60
atattatact aagaaaagat acgactttat tttctggtag atagaaataa atagctatat     120
ccatgtactg tagttttct tcaacatcaa tgttcattgt aatgttactg atcatgcatt     180
gttgaggtgg tctgaatgtt ctgacattaa cagttttcca tgaaaacgtt ttattgtgtt     240
tttaatttat ttattaagat ggattctcag atatttatat ttttatttta tttgtttcta     300
ccttgaggtc ttttgacatg tggaaagtga atttgaatga aaaatttaag cattgtttgc     360
ttattgttcc aagacattgt caataaaagc atttaagttg aa                        402


         <210> 580
         <211> 245
         <212> DNA
         <213> Homo sapien


         <220>
         <221> misc_feature
         <222> (1)...(245)
         <223> n = A,T,C or G


         <400> 580
ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt      60
agggatggga gggcgatgan gactaagatg atggcgggca ggatagttca gacngtttct     120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg     180
gcatacagga ctaggaagca gataaagaaa atgactntta gggcgtgatc atnaaanggg     240
ataaa                                                                 245


         <210> 581
         <211> 294
         <212> DNA
         <213> Homo sapien


         <400> 581
tgcagcgcaa gtaggtctac aagacgctac ttccctatc atagaagagc ttatcacctt       60
tcatgatcac gccctcatag tcattttcct tatctgcttc ctagtcctgt atgccctttt     120
cctaacactc acaacaaaac taactaatac taacatctca gacgctcagg aaatagaaac     180
cgtctgaact atcctgcccg ccatcatcct agtcctcatc gccctcccat ccctacgcat     240
cctttacata acagacgagg tcaacgatcc ctcccttacc atcaaatcaa ttgg          294


         <210> 582
         <211> 230
         <212> DNA
         <213> Homo sapien


         <400> 582
gaggtcgccc tcatagtcat tttccttatc tgcttcctag tcctgtatgc ccttttccta      60
acactcacaa caaaactaac taatactaac atctcagacg ctcaggaaat agaaaccgtc     120
tgaactatcc tgcccgccat catcctagtc ctcatcgccc tcccatccct acgcatcctt     180
tacataacag acgaggtcaa cgatccctcc cttaccatca aatcaattgg               230


         <210> 583
         <211> 481
```

<212> DNA
<213> Homo sapien

<400> 583
```
ccaagggtgt tctgcctgcc tcagcctccc aaagtgctgg gattacaggt gtgagccact       60
gtgcctgacc acaggaaaac ttatttaaat gagagatttg actcgaaaga tcccgttttt      120
ttaaggctct tagttcttaa aagcggcaca taatagaatt agtataatcc caaataaatt      180
ttcagtagat ttttggtgta acttgagaag atgattctgt catttttagt gacaatttaa      240
aagacctgaa attgtctaca gccatagaaa gtgaactact gatagttgtt tctgtaaagt      300
tttattggaa cacaaccaca cctatttgtt catctgtatt gtctttggtt actttgtgca      360
gagaccatgg cccacaaacc taaacattc actttctagc tctttaagaa ataattggcc      420
cactgacacc ctggtcttaa ggtctagacc aattatttct caagagtatt agctgaatca      480
g                                                                       481
```

<210> 584
<211> 306
<212> DNA
<213> Homo sapien

<400> 584
```
ccaattaaga gctaaattta caaaataatc tctatcagga ggctttaagg tttaatgtct       60
ctaaagtccc tatggatata agaggcttga atgtactgaa ttcaaatttg gtttttaaat      120
gttataatag tttaggcccg agagccacat atttctgtct aagaatagaa agcatagcta      180
gctgcccaca cagaatattc atatagaggt gggggggcaag aacaaaattt attcatttga      240
tacatagaaa tgggactact tagaatagac tcataataga aagcatcatc tggtttctca      300
tctcag                                                                  306
```

<210> 585
<211> 308
<212> DNA
<213> Homo sapien

<400> 585
```
ccagaatggt acagagtgga gggtgttctg ctaatgactt cagagaagta tttaagaaaa       60
acatagaaaa acgtgtgcgg agtttgccag aaatagatgg cttgagcaaa gagacggtgt      120
tgagctcatg gatagccaaa tatgatgcca tttacagagg tgaagaggac ttgtgcaaac      180
agccaaatag aatggcccta agtgcagtgt ctgaacttat tctgagcaag gaacaactct      240
atgaaatgtt tcagcagatt ctgggtatta aaaaactaga acaccagctc ctttataatg      300
catgtcag                                                                308
```

<210> 586
<211> 416
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(416)
<223> n = A,T,C or G

<400> 586
```
cctgtctttg aatggatgaa ataggttaat aaaaaacatc actgtttaaa aactagaaca       60
ctgaaaaatt ctaggaaagc ttattttccc ttatattttt atggnacttt caacacttna      120
caacactatt tnaattaann tttnttctag agtttatann atatcagtac attctttct      180
```

```
gtggatgcaa taatatagaa tcttattnca aatcttactg gcaggntctn ttaaattctt      240
caacggntgn catagtgatt aaccaaaatt agttatgatt tctgcctatc tgtgtgagaa      300
cttacagggg aaattgttct aaacctgagg aacatgaagt aactgtactg cacactccaa      360
atgatgacag tcattttata tcaccttcaa ttacccaaca gcttttaata gtctgg          416
```

        <210> 587
        <211> 382
        <212> DNA
        <213> Homo sapien

        <400> 587
```
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga       60
gctgttcctc tttggactaa cagttaaatt tacaagggga tttagagggt tctgtgggca      120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt      180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt      240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag      300
ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct      360
tggttataat ttttcatctt tc                                               382
```

        <210> 588
        <211> 307
        <212> DNA
        <213> Homo sapien

        <400> 588
```
cctactcttc tccgtccatt gtactatctg cccgtggtgg ggatggcagt aggatcatat       60
ttgatgactt ccgagaagca tattattggc ttcgtcataa tactccagag gatgcgaagg      120
tcatgtcctg gtgggattat ggctatcaga ttacagctat ggcaaaccga acaattttag      180
tggacaataa cacatggact aatacccata tttctcgagt agggcaggca atggcgtcca      240
cagaggaaaa agcctatgag atcatgaggg agctcgatgt cagctatgtg ctggtcattt      300
ttggagg                                                                307
```

        <210> 589
        <211> 89
        <212> DNA
        <213> Homo sapien

        <400> 589
```
cctgggtgat tgaggatgca atgagctgtg attgtgccac cacactccag cctgggcaat       60
acagcaagac tgtctcaaaa aaaaaaaaa                                         89
```

        <210> 590
        <211> 456
        <212> DNA
        <213> Homo sapien

        <400> 590
```
cctcagttct tgattgtggt tgacggggcg tcaccatgaa ggagcccatt tagtataaag       60
cttccaacct tttctcttaa tcgtttcttt aatcttttaa accatcttca agtgcatagg      120
ggagtttccg atgccagagg atgaaagcaa gtgctctctc caccctctcc tcccagagtg      180
aaaacaaatc cttttgctga tacttgtttc aaaagcatcc attgtaaagc ttctcagtga      240
cacaaaatac tgagaggtaa ctttttatca atcaaaccac ataccccaat ttaacacctt      300
tcaatgctct gaattcaact gacagactaa agggtgtttc ctgtaacagt ctgaaatatt      360
aagtgttttt tttgttttgt ttttaaatct tatttcagaa aacttcctct tggggtagga      420
```

aagtacacat gaagcagcaa agtaacgaag aaaaac   456

```
<210> 591
<211> 289
<212> DNA
<213> Homo sapien

<400> 591
ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt      60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct     120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg     180
gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaaggtg     240
ataagctctt ctatgatagg ggaagtagcg tcttgtagac ctacttgcg               289


<210> 592
<211> 435
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(435)
<223> n = A,T,C or G

<400> 592
cgcgttagat gcgccttttc cggcctgtgc gtctgctctg gttcctctca ggcagcaaag      60
ctggggaagg aagctcaggc aggagcctcc ccgacaccac agcggcacaa gcagcagcta     120
aagcaccgca ctttgctctg ctaacctttt acttaaatga ggttttgcca aatccacatc     180
tggaaccgca tcacacccat ttgcaaggat gtttgttctt tgatgaaact gcatctctac     240
tgcacatgan ggctttcatt gtaggacaag aggagagttc gtttattttt gtaactgttt     300
tacatgttcc gattanttaa tcggnagctt atgtcatttg ctatgcctgt tgtcttctaa     360
tctctcctta ctaaaacatt acttcaaatt tnaattgacc cttgtttata atttatttaa     420
cgggatttgn gtgtc                                                      435


<210> 593
<211> 633
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(633)
<223> n = A,T,C or G

<400> 593
ctgtttagtc agataattgt gtccgaattg attangaaaa taatagacca gccataaagc      60
agcataaaat attatgaaac tattccagaa gttcagtaat atctttggga cctgctcata     120
gcccaagttt tgtgaatact tttgtagtta aaaaaaattt ttactttacc agggcattgc     180
aattcttttc catcagtgaa tttcattcta cagacttttc agagcatctc ataatcagtc     240
aacaaatcta tttcaaatgt gtttgttact aagcaacggt tgctaagagc ttctgtaatt     300
aagatgaaag ttccaaggta acaatgccca aacacagcac cattttcacc attttctgat     360
aatgcaggag taggatggct aaaagtgaaa gaagaatcta ctctatggaa agcatggcac     420
ctgaaatttc tgaagatatt ggctgtcctc tagcttatat gagagagagt gtttgtgctt     480
tactaatcaa ccagtcattt ttttcttgtg tggctgaaat gtacattcca gacatgaaca     540
```

```
ggtagagtat gtgttggggg caggtttata ctgcatgggt gtgctgagac agggccacgt    600
ggtgatgtaa atgatgctgn ctgacacgtg cag                                 633
```

```
        <210> 594
        <211> 501
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(501)
        <223> n = A,T,C or G

        <400> 594
cctttacaag atgctggtac cttgatcttg gacngggcag gctccaagat ggaaagaaag     60
tgagcatctg cttttaggg attatccagt ctatactact ctgttctagc cacacaaaac     120
aggttaagac agaaattggt accaagagtg gggtgttact acagcaaata cctgaaaatg     180
tagaagaggc tttgaaatgt ggtaattgga agaagctggt agaatttgga ggagtaggct     240
agaaaatgtc tgtattttca tgaatggagc attaagaata attccggtga ggccataggg     300
aaagtctaaa acttttcaga aattatgtaa gcgattgtga ttagtaggtt ggtagaaata     360
tagacagtaa aagcaattct gatgtggttt cagaggaaaa tgaaaaatat tagaaactga     420
aggaaggggc atccttgcta taaactggca aagaacttgg ctgaaatgtc tccatgtcca     480
agagatttat ggcagaaatg t                                               501
```

```
        <210> 595
        <211> 383
        <212> DNA
        <213> Homo sapien

        <400> 595
ctggtcacca tcatcccttt aatcaactca cacctgttta aagagtgttt ctgatttgac     60
cttcatccct tagtttactg gcgttaaaaa aagtctcagc aattttcatt atttctcgtg     120
ggtctcatta tcaaaccttt acttatttcg gcatatttcc tctgggcttc ttctagtttc     180
tgccttacaa gcaatgctgt tctgtaaatt tattgaaacc tctggaacat ttcaccttta     240
gagatggagg atggaaggat tggtaccaga agagggctaa gatacgtttt ctgtcttgag     300
ctgaaagcac agtctactct ccttcgtttt gtcgatgaga aagttgaggc cagaggggag     360
gtgacatgtt tagagtcacc cag                                             383
```

```
        <210> 596
        <211> 266
        <212> DNA
        <213> Homo sapien

        <400> 596
ccatggctag gtttatagat agttgggtgg ttggggtaaa tgagtgaggc aggagtccga     60
ggaggttagt tgtggcaata aaaatgatta aggatactag tataagagat caggttcgtc     120
ctttagtgtt gtgtatggct atcatttgtt ttgaggttag tttgattagt cattgttggg     180
tggtaattag tcggttgttg atgagatatt tggaggtggg gatcaataga gggggaaata     240
gaatgatcag tactgcggcg ggtagg                                          266
```

```
        <210> 597
        <211> 383
        <212> DNA
        <213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(383)
<223> n = A,T,C or G

<400> 597
ctggtcacca tcatcccttt aatcaactca caccngttta aagagtgttt ctgatttgac      60
cttcatccct tagtttactg gcgttaaaaa aagtctcagc aattttcatt atttctcgtg     120
ggtctcatta tcaaaccttt acttatttcg gcatatttcc tctgggcttc ttctagtttc     180
tgccttacaa gcaatgctgt tctgtaaatt tattgaaacc tctggaacat ttcacctttа     240
gagatggagg atggaaggat tggtaccaga agagggctaa gatacgtttt ctgtcttgag     300
ctgaaagcac agtctactct ccttcgtttt gtcgatgaga aagttgaggc cagaggggag     360
gtgacatgtt tagagtcacc cag                                             383
```

```
<210> 598
<211> 266
<212> DNA
<213> Homo sapien
```

```
<400> 598
ccatggctag gtttatagat agttgggtgg ttggtgtaaa tgagtgaggc aggagtccga      60
ggaggttagt tgtggcaata aaaatgatta aggatactag tataagagat caggttcgtc     120
ctttagtgtt gtgtatggct atcatttgtt ttgaggttag tttgattagt cattgttggg     180
tggtaattag tcggttgttg atgagatatt tggaggtggg gatcaataga gggggaaata     240
gaatgatcag tactgcggcg ggtagg                                          266
```

```
<210> 599
<211> 294
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(294)
<223> n = A,T,C or G
```

```
<400> 599
ccaattgatt tgatggtaag ggagggatcg ttgaccacgt ctgttatgta aaggatgcgt      60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct     120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg     180
gcatacagga ctaggaagca nataaggaaa atgactatga gggcgtgatc atgaaaggtg     240
ataagctctt ctatgatagg ggaagtagcg tcttgtagac ctacttgcgc tgca           294
```

```
<210> 600
<211> 213
<212> DNA
<213> Homo sapien
```

```
<400> 600
agatattggg ctgttaattg tcagttcagt gttttaatct gacgcaggct tatgcggagg      60
agaatgtttt catgttactt atactaacat tagttcttct ataggtgat agattggtcc      120
aattgggtgt gaggagttca gttatatgtt tgggattttt taggtagtgg gtgttgagct     180
tgaacgcttt cttaattggt ggctgccttt agg                                  213
```

```
<210> 601
<211> 471
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(471)
<223> n = A,T,C or G

<400> 601
ncctactatg ggtgttaaat tttttactct ctctacaagg ttttttccta gtgtccaaag      60
agctgttcct ctttggacta acagttaaat ttacaagggg atttagaggg ttctgtgggc     120
aaatttaaag ttgaactaag attctatctt ggacaaccag ctatcaccag gctcggtagg     180
tttgtcgcct ctacctataa atcttcccac tattttgcta catagacggg tgtgctcttt     240
tagctgttct taggtagctc gtctggtttc gggggtctta gctttggctc tccttgcaaa     300
gttatttcta gttaattcat tatgcagaag gtataggggt tagtccttgc tatattatgc     360
ttggttataa tttttcatct ttcccttgcg gtactatatc tattgcgcca ggtttcaatt     420
tctatcgcct atactttatt tgggtaaatg gtttggctaa ggttgtctgg t             471
```

```
<210> 602
<211> 482
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(482)
<223> n = A,T,C or G

<400> 602
tgagcataca gcaataaaaa taacataatt tntatgtgta caatatttat ggaatacgtt      60
actggaacag ataaataatt tagttaataa catgacaaag aacagaaatt gtatacacta     120
tacagcatag taatagaata atgaatgatt aaagttatta atattaggta gaaaatgaag     180
ggtatctttg agagcagaac tcaaggaagc aagcaatttg ccttatgagg aaagagttac     240
ctgtggataa aggagaaact gaaaaattta caagtcaaga cttttttgagc aaaaacaaaa     300
atatgactat gagtcaccaa ttcagtacag tgaaaaaaaa gttgaagaga tatcttggaa     360
gtaaaccatg ttgtggaaga gcagggtttt gataatcatg ggattattct gaatgaattt     420
taaatgcgat aggaatatat gagataattt caccagagaa taatatgatc atgtttgcat     480
tt                                                                     482
```

```
<210> 603
<211> 372
<212> DNA
<213> Homo sapien

<400> 603
gttccaacct tcatttctga aactgttcta gagcactttg tctttctcgt agttcataac      60
ttacccccttc agtctagaat tagaattaca ttatctgttt tactacttta ctagactgta     120
agctcctaga agataaggac tagggagttc atctctgtat tccaccagaa ggtacagtga     180
ctcataacta gagtctttag atgaaactta ctgagttgaa taacttaata tatttctgtt     240
ttcattccca agggaggcca tgtctggaga tagaccttga atttaataaa ttttaggcac     300
tataccattt cagtggagaa aattgttggg aaatttgggg ggatggatat ataaggggga     360
```

ggaagtcact gg   372

```
        <210> 604
        <211> 468
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(468)
        <223> n = A,T,C or G

        <400> 604
gcngttttga gtgagtttct taatcctgag ttctggnttg attgcactgt ggtctgagag        60
atagtttgtt ataatttctg ttcttttaca cttactgagg agagctttac ttccaagtat       120
gtggtcgatt ttggaatagg tgtggtgtcg tgctgaaaag aatgtatatt ctgttgattt       180
ggggtggaga gttctgtana tgtctattag gtccgcttgg tgcagagttg agttcaattc       240
ctggatagcc ttgttaactt tctgtctcgt tgatctgtct aatgttgaca gtggggtggt       300
aaagtctccc attattattg tgtgggagtc taagtctctt tgtaggtcac taaggacttg       360
ctttatgaat ctgggtgctc ctgcattggg tgcacatata tttaggacag cnagctcttc       420
ttgttgaatt gatcccttta ccattatgta atggccttgn ctcttttg                     468

        <210> 605
        <211> 288
        <212> DNA
        <213> Homo sapien

        <400> 605
ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt        60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct       120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg       180
gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaaggtg       240
ataagctctt ctatgatagg ggaagtagcg tcttgtagac ctacttgc                     288

        <210> 606
        <211> 572
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(572)
        <223> n = A,T,C or G

        <400> 606
gaatnaaatg aatgaaatag aaaatataat tgagagcttc aacaacagac tataccaaat        60
ggaggaaaaa atttctgaac ttgaagatag atcttttgaa ataacacaag cagtggcaaa       120
aatgaattaa aaagaataag gaaagcctaa aggatttatg agatatcatt aagcaagcaa       180
atattcatac tatgggcatt ccagatggaa aaaagaaggg taaaggtgag gaaatcatat       240
ttaatgaaat aatagcagaa aatttccgga gtcttgggag agagatgagc atttaggtcc       300
agggagctca aagaacccca aacagattca acccaaacag gtcctctctg gagcccaaca       360
tagtcaaatt gtaataagta aaagacaaag aattccaana agcattcaag agaaaagagt       420
caagtcataa ataagggaat ctccattagg ctaacagcag atatctcagc agaaagctta       480
cangccanga gagaatggga tgatatattc aaagtacttg aaagcagggg tnggggaaac       540
```

```
cctgctagct aaaaatatta taccccttgca aa                                    572
```

```
        <210> 607
        <211> 178
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(178)
        <223> n = A,T,C or G

        <400> 607
ctcggggtaa tctcccagca agaggtcagg tcctggntgt gcgtcccagg gtgtcagtga        60
aattggctgc tcccctgacc cagggcacct tcatgcgtct tcacagcagg actactgtga        120
ccaaggccag acctttcatc tttcaaaaga ctttgactaa aaatgcttta aaaaagca         178

        <210> 608
        <211> 416
        <212> DNA
        <213> Homo sapien

        <400> 608
cctgtctttg aatggatgaa ataggttaat aaagaacatc actgtttaaa aactagaaca        60
ctgaaaaatt ctaggaaagc ttattttccc ttatattttt atggtacttt caacacttaa        120
taacactatt tcaattaagt tttctcctag agtttatagt atatcagtac attcctttct        180
gtggatgcaa taatatagaa tcttattcca aatcttactg gcaggttctc ttaaattctt        240
caacggctgt catagtgatt aaccaaaatt agttatgatt tctgcctatc tgtgtgagaa        300
cttacagggg aaattgttct aaacctgagg aacatgaagt aactgtactg cacactccaa        360
atgatgacag tcattttata tcaccttcaa ttacccaaca gctttttaata gtctgg          416

        <210> 609
        <211> 648
        <212> DNA
        <213> Homo sapien

        <400> 609
ctgatctctc agcagaaact cttcaaacca gaagagagtg ggggccaata ttcaacattc        60
ttaaagaaaa taattttcaa cccagaattt catatccagc caaactaacc ttcacaagtg        120
aaggagaaat aaaatccttt acagacaagc aaatgctgag agattttatc accaccaggc        180
ctaccctaaa agagttcctg aaggaagcac taaacatgga aaggaacaac cagtaccatc        240
gaggctagga agaaaccgca tcaactaagg agcaaaataa ccagctaaca tcataatgac        300
aggatcagat tcacacataa cgatattaac tttaaatgta aatggactaa atgctccaat        360
taaaagacac agactggcaa attggataaa gagtcaagac ccatcagggt gctgtattca        420
ggaaacccat ctcaccgtgc agagacacac ataggctcaa aataaagggc tggaggaaga        480
tctaccaagc aaatggaaaa caaaaaaagg caggggttgc aatcctagtc tctgataaaa        540
cagactttaa accaacaaag atcagaagag acaaagaagg ccattacata atggtaaagg        600
gatcaattca acaagaagag ctaactatcc taaatatata ttgcaccc                    648

        <210> 610
        <211> 310
        <212> DNA
        <213> Homo sapien
```

<400> 610
```
ccagctcttc tctgtcacat tcctatttct gacttctgcc tggctttcag tttctgcccc        60
accttggctt tttcccagct tgaacctaat agaactccag agtttggggg gaggcccagc       120
cctttgtttt ctgctcttga agcatattca cacataaaaa gttgtattct cttacacaaa       180
ctgttttgag gctcttaccg tagtcgaagg tatcttagat cttccttagt gatctcatta       240
agaatatccg aaagtgtata accctcttca acaatctgaa acaaagatca gatccttaag       300
agctgagcag                                                               310
```

<210> 611
<211> 254
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(254)
<223> n = A,T,C or G

<400> 611
```
ctgtttttac atctaaagca atagactaga actgaattnt cttctacata gtaaaatcac        60
aattgtggaa ttacaggaat tctggtgata ttaaggtgaa acaacaaaac acaaaaggcc       120
ctattttaac agttgatgtg acagtaagtt ttaatagaac ctgtaacttc attttggaaa       180
tgcttctcca ccaaataagg ccttttttccc ctatttaagg agccagatgg attgaaagat       240
gtggaaatag gcag                                                          254
```

<210> 612
<211> 225
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(225)
<223> n = A,T,C or G

<400> 612
```
ctgactatat catgtcacca tcatagccaa tacaacattn ttgccatact tcctaaaaac        60
cttttcgcat acactgatca tgctacttat cagcactttc taacatcctg accaaacaga       120
cacccacacc tcttatagag tacactgtga gagaataaca tggacttgat atggcatcac       180
acttgtttta aagcaaaaaa aaaagaaaaa gaaaagaaaa aaaaa                        225
```

<210> 613
<211> 471
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(471)
<223> n = A,T,C or G

<400> 613
```
ccatcagact tcttgggtgc ctggctatat tcaatgtgaa gtaaaaaata tcccaagtct        60
tacaccaaaa tagaggctct gacttagaag tatgctttta gctttctttt taaataagac       120
```

```
attctggaag aaaaaaaaag aaaaaggaaa gaaaatcaag tttgaaacac agttaacact      180
tattttggca agaaagcaac caaaatctaa aaagcataaa ctatgngtcc aaatgnaaaa      240
ggnattacag aacaaactgc aagaggggaa aattaaagcc ncactgaacg aaaaaataca      300
gtatgtctaa cattttggaa ttgnaattta aaccctaagg gcaaaagctg aaaaatcatg      360
cttanacctn ggncgngacc acnctaaggg cgaattccan cacactggcg gncgttacta      420
gtggatccna nctcggtacc aagcttggcg taatcctngg catagctgtt t               471
```

```
        <210> 614
        <211> 421
        <212> DNA
        <213> Homo sapien
```

```
        <400> 614
gttattttt agaatggctc tcccatcttg agtatgtgtg atgtttcctc atgtatgaat       60
gaagcatata catctttgtc agaagtatcc cagaagcaat tctgtactct cctcattatg      120
ttctattggg tgggccatgg tttttgattt gtctcattac tgatgatggt tactttttatt     180
atttgataaa ggttgtatat aacttatcta ttatggcata atacattagc taaaaccttg      240
gcggtgtaaa acagcagata cttacgtttc tcataggaat ggctctattg agtacctctg      300
tctcaaggct tctcaagagt ttgtagctac cttgttggct ggggttgcgg tctgacctaa      360
aggcttagtt aggggggtggt agaaatcttc catatgttct ttgctacgtg gacctcacag     420
g                                                                       421
```

```
        <210> 615
        <211> 242
        <212> DNA
        <213> Homo sapien
```

```
        <400> 615
cctcctatttt attctagcca cctctagcct agccgtttac tcaatcctct gatcaggatg      60
agcatcaaac tcaaactacg ccctgatcgg cgcactgcga gcagtagccc aaacaatctc      120
atatgaagtc accctagcca tcattctact atcaacatta ctaataagtg gctcctttaa      180
cctctccacc cttatcacaa cacaagaaca cctctgatta ctcctgccat catgaccctt      240
gg                                                                       242
```

```
        <210> 616
        <211> 392
        <212> DNA
        <213> Homo sapien
```

```
        <220>
        <221> misc_feature
        <222> (1)...(392)
        <223> n = A,T,C or G
```

```
        <400> 616
cctaatttgt agattgtgaa agcagctttt agtttaactt atttacagac cccttataat       60
taccatgttt tttttttnt tcctaaatct nttggttcag cttgngaatn ttacgtgccc        120
gtaaagtngg gatgttgaat nggcccttnt ttgttctggc agngagtcaa gngtccanca       180
tttttcata agngttttt aaaatngttc tccancattt tatggctcct ccctcccatg        240
tcctcaaacc cagcaaaagc gtanaggcan aattanagga cccncccggg cggccgntaa       300
gggcnaattc cagcncactg gcggccgtta ctagnggatc cnagctcggn nccaagctng       360
gcgtaatcat ggncatagct gtttcctgtg an                                     392
```

```
        <210> 617
```

```
<211> 215
<212> DNA
<213> Homo sapien

<400> 617
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga      60
gctgttcctc tttggactac cagttaaatt tacaaggggga tttagagggt tctgtgggca     120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt     180
ttgtcgcctc tacctataaa tcttcccact atttt                                 215


<210> 618
<211> 433
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(433)
<223> n = A,T,C or G

<400> 618
cttttgtntg cctgttttgt ggactggctg gctctgttag aactctgtcc aaaaagtgca      60
tggaatataa cttgtaaagc ttcccacaat tgacaatata tatgcatgtg tttaaaccaa     120
atccagaaag cttaaacaat agagctgcat aatagtattt attaaagaat cacaactgta     180
aacatgagaa taacttaagg attctagttt agttttttgt aattgcaaat tatattttg      240
ctgctgatat attagaataa tttttaaatg tcatcttgaa atagaaatat gtattttaag    300
cactcacgca aaggtaaatg aacacgtttt aaatgtgtgt gttgctaatt ttttccataa    360
gaattgtaaa cattgaactg aacaaattac ccataatgga tttggttaat gacttatgag    420
caagctggtt tgg                                                        433


<210> 619
<211> 259
<212> DNA
<213> Homo sapien

<400> 619
ctgcagtgtc ccttttttata tcatgctagt gttgagacat acttgactaa cttgggaaca     60
gttcgatata ttgacaaccg tcaacttaag aaaatcaaca gcttttggcc ccagcgtcca    120
agtgaacttt tcatggagtg cagaatctca aatggacaaa atactttgtc tttttaaata    180
ctgaaaattt aattattagt actatgactg aaagattctt catggctaaa aagctctgca    240
tcaaactcaa ttcaggagg                                                  259


<210> 620
<211> 393
<212> DNA
<213> Homo sapien

<400> 620
ccaccaaagc cacacggaga ttctgtcagg cgctgagaca ccacagcctt ttcaatctta      60
gggaaagaaa tcaagtcata taaattaata tcaacaggta aggtcattga gcaattgtct    120
ttcaactgtc taagacttta tcacttaaga tcataaacac agaagcaggt cataaaaata    180
gcttttctta aggtttagga gaatttgtag gggcacttac ttgataatct gaattttcta    240
gtcagaagtt taaataccac cttttaaaaa cataaaattt aatttgtaac aagttattaa    300
caaagcagta ttgtcgaaag ttttaagctt tctcccaata atttaattac attaattaaa    360
```

```
tttttaccat tctaatggtt acaaagtaac cag                              393
```

```
        <210> 621
        <211> 563
        <212> DNA
        <213> Homo sapien

        <400> 621
ctgacaatga taaaattatc tctatatggg caaacgcgtg ctctttgtcg aagaagaaag    60
cttcagcttc atgttccagg tgagttaatt aggcaatgta tgaatgctaa tatctctttc   120
acatattttg cttaagatct gtcttaggac tctcgtctgg cccatatggt tttccaaggg   180
cagaagggcc tctttttgat gagaggcagt tttcagtaac tcttaaagtg ataacagcaa   240
aggagaggag agagaagagt aagacaaatc gaaacattct tcaattgctt cttggccttt   300
tggctaagct caagctcaaa acaggtcttc aaggagaaaa tacatcacaa agaaaaggat   360
gttttatttc ttaccttgtc ctagaaaaat ttccataaac tctattggct taattctgta   420
aacttgacca atatcagagt gcttcctacc aaggagggta gctgatgagc gtgaccatgg   480
tacatcctag aagaatgtgt gatgaagaag ctttcaccgt gtaaaagagt tgaaaattat   540
tcaaggagac attatggtct tgg                                         563
```

```
        <210> 622
        <211> 505
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(505)
        <223> n = A,T,C or G

        <400> 622
tcttaagtgt gtttaataga taaagtaaac tttcctagtc aagggttaga tttttattat    60
ctcttgtgtt ccgactttct acttttcaac tttgaacttc aaaaaaacat tactttgctt   120
atcctttgta ctttgatcag gttgtttaga attgtagatc aaaccattct ttgatcattt   180
tattgtttaa atgnttagtt ccatttataa ttttttatagc caactctcgg ttatttctgt   240
cttttgagat tgcaattcag aagctgtatg tcgaagtaat ttatgagttg acttttatac   300
ttaggcttct ttaaatacta atagtcaaga attctagagc atctaataaa aaattaactt   360
tcagatcatt gggaatctgt cctcatttaa atatgtgtaa atgcatttcc acagcaaatt   420
gcttcatgcc ctttgnctat aaggaaatta ttccttgtag ctaatacatt tttcattttg   480
cagnccaaat ctttttgag aaagg                                        505
```

```
        <210> 623
        <211> 489
        <212> DNA
        <213> Homo sapien

        <400> 623
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga    60
gctgttcctc tttggactaa cagttaaatt tacaagggga tttagagggt tctgtgggca   120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt   180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt   240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag   300
ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct   360
tggttataat ttttcatctt tcccttgcgg tactatatct attgcgccag gtttcaattt   420
ctatcgctat actttatttg ggtaaatggt ttggctaagg ttgtctggta gtaaggtgga   480
```

gtgggtttg   489

```
        <210> 624
        <211> 233
        <212> DNA
        <213> Homo sapien

        <400> 624
gttggggaac agctaaatag gttgttgttg atttggttaa aaaatagtag ggggatgatg      60
ctaataatta ggctgtgggt ggttgtgttg attcaaatta tgtgtttttt ggagagtcat     120
gtcagtggta gtaatataat tgttgggacg attagtttta gcattggagt aggtttaggt     180
tatgtacgta gtctaggcca tatgtgttgg agattgagac tagtagggct agg            233


        <210> 625
        <211> 459
        <212> DNA
        <213> Homo sapien

        <400> 625
ttcgagaaca tttttaataa ataatgtgac aaaattactt ttctgattat tggattttca      60
gtatgcaaaa ttatggctaa aaataagggg cttcttacat gaacataatg aaaacattaa     120
tcacatggat tgttccctta gtactgcacg ccttttctat ggaacttttt caaattatct     180
aaatgaacaa gtttggtttt ggtgaacacc agcctttttt tttgtggttc agttttgttt     240
ggctttgtct tccactgggg tcagacctga tactatcta tctatgaata aatgtacatt      300
ttttcttca aatagcacca attataaaat caatgatatt cataaaatga caaaaaagga     360
tcatagaaat ctactagtca gagggcatca tttgtcaatt gaaagcaagt aatgcctcta     420
ttagagattt taaggaaatc ttgtaggttt cgacattgg                           459


        <210> 626
        <211> 458
        <212> DNA
        <213> Homo sapien

        <400> 626
cctgatgatt gttttaaaca gtagaaaggg ttcagctaag aactacagtc cactctcagc      60
cctgtcatgt actataggac aagtcttcat tcacaacaaa tggatagcaa caccaatctc     120
gtaacactgg gaaaactgca tacaatattt agaaggaaca ctaatacagc agaatctgca     180
cacaacggag tcaaagatct gaggccaaat cctactacac tttacgactt tgagttggtc     240
acttttctga accttagctt ctccatcagt gtaaaactga tgtaaaataa tataaagcta     300
tatgaaagct gatgtgattt acttgtgaaa tagtatgtgc aaaaggactt tgtaaaatgt     360
aaagcactat gctggttatt gtgatatctg agatattttt aaagttgcaa ttcaattcaa     420
caagcattca tttagagtca tgtgcaaggc actgtgct                            458


        <210> 627
        <211> 393
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(393)
        <223> n = A,T,C or G

        <400> 627
```

```
ccatnngaac gcactcagga ggtggtttgt tctggatgca gaaaccagag atctagtttc      60
tatccacaca gacgggaatg aacagctctc tgtgatgcgc tactcaatag atggtacctt     120
cctggctgta ggatctcatg acaactttat ttacctctat gtagtctctg aaaatggaag     180
aaaatatagc agatatggaa ggtgcactgg acattccagc tacatcacac accttgactg     240
gtccccagac aacaagtata taatgtctaa ctcgggagac tatgaaatat tgtactggga     300
cattccaaat ggctgcaaac taatcaggaa tcgatcggat tgtaaggaca tttgattgga     360
ccgacatata cctgtgggct aggacttcca gga                                   393
```

```
        <210> 628
        <211> 233
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(233)
        <223> n = A,T,C or G

        <400> 628
ctggatttat aaaatagttg aatgacaaaa gaagnntgtt ttgacagtaa aaaaaagaca      60
ttatggacaa aatatgcaaa atgtgcaaag aaaaaataaa tttgcattag aaaggtgggc     120
atttgatctc tgagccctgt gccatgtaac attgccatgt tctttcactg ttgtttgaat     180
gttgtacccc ancccttgac tctggactta aggcaagcta tgactggctt tgg            233
```

```
        <210> 629
        <211> 450
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(450)
        <223> n = A,T,C or G

        <400> 629
ccnggacaat ntaggcagga gaaggaaata aagggtattc aattaggaaa agaggaagtc      60
aaattgtccc tgtttgcaga tgacatgatt gtatatctag aaaaccccat tgcctcagcc     120
caaaatctcc ttaagctgat aagcaactcc agcaaagtcg caggatacaa aatcaatgga     180
cacaaatcac aaacattctt atacaccaat aacagacaaa cagaggccaa atcacgagtn     240
gaactctatt ccaattgctt tcaagaaaat taaaatacct agggatccaa cttacaaggg     300
acatgaagga cctcttcaag gagaaactac aaaccactgc tcaatgaaat aaaagaggat     360
acaaagaaat ggaagaacat tccatgctca ttggtagctt gatggggatg gcattgaatc     420
tataaattac cttgggcagt atggacctca                                       450
```

```
        <210> 630
        <211> 486
        <212> DNA
        <213> Homo sapien

        <400> 630
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga      60
gctgttcctc tttggactaa cagttaaatt tacaagggga tttagagggt tctgtgggca     120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt     180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt     240
```

```
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag    300
ttatttctag ttaattcatt atgcagaagg tatagggggtt agtccttgct atattatgct    360
tggttataat ttttcatctt tcccttgcgg tactatatct attgcgccag gtttcaattt    420
ctatcgccta tactttattt gggtaaatgg tttggctaag gttgtctggt agtaaggtgg    480
agtggg                                                              486
```

```
<210> 631
<211> 211
<212> DNA
<213> Homo sapien
```

```
<400> 631
tttacataaa tattatacta gcatttacca tctcacttct aggaatacta gtatatcgct     60
cacacctcat atcctcccta ctatgcctag aaggaataat actatcactg ttcattatag    120
ctactctcat aaccctcaac acccactccc tcttagccaa tattgtgcct attgccatac    180
tagtctttgc cgcctgcgat gcagcggtag g                                  211
```

```
<210> 632
<211> 293
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(293)
<223> n = A,T,C or G
```

```
<400> 632
cagcgcaagt aggtctacaa gacgctactt cccctatcat agaagagctt atcacctttc     60
atgatcacgc cctcatagtc attttttcctt atctgcttcc tagtcctgta tgccctttttc   120
ctaacactca caacaaaact aactaatact aacatctcag acgctcagga aatagaaacc    180
gtctgaacta ngctgcccgc catcatccta gtcctcatcg ccctcccatc cctacgcatc    240
ctttacataa cagacgaggt cnacgatccc tcccttacca tcaaatcaat tgg           293
```

```
<210> 633
<211> 263
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(263)
<223> n = A,T,C or G
```

```
<400> 633
nggtctgcag tgtccctttt tatatcatgc tagtgttgag acatacttga ctaacttggg     60
aacagttcga tatattgaca accgtcaact taagaaaatc aacagctttt ggccccagcg    120
tccaagtgaa cttttcatgg agtgcagaat ctcaaatgga caaaatactt tgtctttttta   180
aatactgaaa attnaattat tagtactatg actgaaagat tcttcatggc taaaaagctc    240
tgcatcaaac tcaattcagg agg                                           263
```

```
<210> 634
<211> 491
<212> DNA
```

<213> Homo sapien

<400> 634
```
cctactatgg gtgttaaatt ttttactctc tctacaaggt ttttttcctag tgtccaaaga    60
gctgttcctc tttggactaa cagttaaatt tgcaaggga tttagagggt tctgtgggca   120
aatttaaagt tgaactaaga ttctatcttg dacaaccagc tatcaccagg ctcggtaggt   180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt   240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag   300
ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct   360
tggttataat ttttcatctt tcccttgcgg tactatatct attgcgccag gtttcaattt   420
ctatcgccta tactttattt gggtaaatgg tttggctaag gttgtctggt agtaaggtgg   480
agtgggtttg g                                                       491
```

<210> 635
<211> 270
<212> DNA
<213> Homo sapien

<400> 635
```
ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt    60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct   120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg   180
gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaaggtg   240
ataagctctt ctatgatagg ggaagtagcg                                   270
```

<210> 636
<211> 383
<212> DNA
<213> Homo sapien

<400> 636
```
cctactatgg gtgttaaatt ttttactctc tctacaaggt ttttttcctag tgtccaaaga    60
gctgttcctc tttggactaa cagttaaatt tacaagggga tttagagggt tctgtgggca   120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt   180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt   240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag   300
ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct   360
tggttataat ttttcatctt tcc                                          383
```

<210> 637
<211> 537
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(537)
<223> n = A,T,C or G

<400> 637
```
ttttaatcct ggggtatata ggcagnactt taaattgcaa agtcttccgg gcctattttc    60
ctctacattt ttgtaattaa ctctgggggc ttacttgttt tggcagtact gaaatcaaag   120
gagctggttc ttcttttctc ccaattattt tcatatgaaa gcacctacaa ttagcctgtt   180
agtcctattc agatacatca aatatcagtg aatgctttac tattcgcaca tttaagcatc   240
```

```
tttgttttac ataaaattag agtatgaaaa ccagtgttca attttttatc ttgttgagct        300
tgtaaaatgc cagcaattta aaactaggac ttttcccccc ataagccaag gaggtagaat        360
tactaataca agggttaaag aaggtagatt ttgttttcaa tatttgggta atattagaaa        420
gattcttccc acagggaaga actagcaagt gtcccaattt tttccaaacg ttggggaggg        480
gaaaattcac tgtatcatga aaccctaagg gtttgngtgc acttcctgct ttttagg           537
```

```
<210> 638
<211> 445
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(445)
<223> n = A,T,C or G

<400> 638
ccagcagaac acagnagtga tttggtcccg tttgttcccc agtggggtat ctatccttgt         60
gcagggcaca agcctacatg gtggctctgg tcatatcatt agaaaataga cagaaatggg        120
ctgcacacca gaatgaatga attgaattga aagggaggag tgatggtgga aaaaaaaaca        180
agtcaattca tttagactgg tagaaccaga accactgtgt agtacatcca aacggttaaa        240
attccctgga agatgttaca taatcctatc atggtgttta tttatggaaa tctattttaa        300
aaattttatg taatactgca cagtctgttt gcatgatgcc ttgtacgtag tagcaactca        360
gtaaatactt tttgaatgaa ctagtatagt attttaatta gctagtcttc gtgtactggt        420
acaaaagaac agtgtcatct tacag                                             445
```

```
<210> 639
<211> 584
<212> DNA
<213> Homo sapien

<400> 639
gcttgagtat tctatagtgt cacctaaata gcttggcgta atcatggtca tagctgtttc         60
ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt        120
gtaaagcctg gggtgcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc        180
ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg        240
ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct        300
cggtcgttcg gctgcggcga gcggtatcag ctcactcaaa ggcggtaata cggttatcca        360
cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga        420
accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgcccccct gacgagcatc        480
acaaaaatcg acgctcaagt caagaggtgg cgaaacccga caggactata aagataccag        540
gcgtttcccc ctggaagctc cctcgtgcgc tctcctgttc cgac                         584
```

```
<210> 640
<211> 404
<212> DNA
<213> Homo sapien

<400> 640
ccataggaac gcactcaggc aggtggtttg ttctggatgc agaaaccaga gatctagttt         60
ctatccacac agacgggaat gaacagctct ctgtgatgcg ctactcaata gatggtacct        120
tcctggctgt aggatctcat gacaacttta tttacctcta tgtagtctct gaaaatggaa        180
gaaaatatag gagatatgga aggtgcactg gacattccag ctacatcaca caccttgact        240
ggtccccaga caacaagtat ataatgtcta actcgggaga ctatgaaata ttgtactggg        300
```

```
acattccaaa tggctgcaaa ctaatcagga atcgatcgga ttgtaaggac attgattgga      360
cgacatatac ctgtgtgcta ggatttcaag tatttggtgt ctgg                       404
```

<210> 641
<211> 138
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(138)
<223> n = A,T,C or G

<400> 641

```
ctgtgacagg aacattacct gaagtgcagg gtggttacct gcacaaagtc ccatttccaa       60
aaatttctgt gtaattcacc agaaattttg gatggaataa ttagaaaaaa aaaaagaggt      120
taaaacntgt aactcaaa                                                    138
```

<210> 642
<211> 381
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(381)
<223> n = A,T,C or G

<400> 642

```
ctgtaggtgg aatttttacc cagaaaagat aggccctaga agcctcattt cttttctcca       60
tggaaaagga cagccctctg ctgcagcgtt caacttgtgt gtttactgac agagtgaact      120
acagaaatag cttttcttcc taaaggggat tgttctacat tttgaagtta ttttttaata      180
aaattgaatt atgttgtgta ttgtgcttcc taataggaaa tgcattattg gactgttttt      240
gtaacatcct gtttattgca aatagctagt atcgttcaaa aactgtataa aatacttttg      300
tacatattag caatgtctaa tttgtataca cttcagttaa atttccctaa aacttgaaag      360
gggaccttgt anaaattaaa a                                                381
```

<210> 643
<211> 403
<212> DNA
<213> Homo sapien

<400> 643

```
ccttcctaaa aaatagtggt gagctggagg ctacttccgc cttcttagcg tctggtcaga       60
gagctgatgg atatcccatt tggtcccgac aagatgacat agatttgcaa aaagatgatg      120
aggataccag agaggcattg gtcaaaaaat ttggtgctca gaatgtagct cggaggattg      180
aatttcgaaa gaaataattg gcaagataat gagaaaagaa aaaagtcatg gtaggtgagg      240
tggttaaaaa aaattgtgac caatgaactt tagagagttc ttgcattgga actggcactt      300
attttctgac catcgctgct gttgctctgt gagtcctaga tttttgtagc caagcagagt      360
tgtagagggg gataaaaaga aaagaaattg gatgtattta cag                       403
```

<210> 644
<211> 688
<212> DNA

<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(688)
<223> n = A,T,C or G

<400> 644
```
cctatttatt tgttttggcc ctggatcttt cctaatcaca attatatttc tttatttttg      60
cctttgagca gtttcattta tctttgtggg cagggaagat taaatatgaa attcagtcca     120
gtcattttgc tactggttag ctttagtttg aggcaagtaa aaatttttga ttaaaattag     180
tttcttaaaa ttatgccctt gctttaccaa ataatcaaat tggctaaaaa ataagggtat     240
gtaactttgc attttgaaga acaaaccaat aatttttcat gagccctact cgatcttctt     300
taaagaagac cttcctaaga gacaattagg gatgagtttg attaatggga aatagctcta     360
ggttagatta ttttaaattc catacaccaa gtgatttaac cacagtggca gtggcagctt     420
ctgaaccgtc aagtatgaac atcacttaaa aattaaaaga tgcttaataa taaactctta     480
attttcatta agccaatctg taattcagaa gaaaagcata tgtctgccat gggactattg     540
cagtgcgtct ccatcagtgt taacacagga gagatatgtt attttatgtg tatgtcttag     600
tttgggatat gtggtagtaa gaacatgtca agagtgcttt tcttcaaacc tgncagctca     660
actgangaaa gacaggtact tccattgc                                       688
```

<210> 645
<211> 484
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(484)
<223> n = A,T,C or G

<400> 645
```
ccaaatgtgt ctccagccca cacttccagg tggcagagcg agctctctat tactggaata      60
atgaatacat catgagttta atcagtgaca acgcagcgaa gattctgccc atcatgtttc     120
cttccttgta ccgcaactca aagacccatt ggaacaagac aatacatggc ttgatataca     180
acgccctgaa gctcttcatg gagatgaacc aaaagctatt tgatgactgt acacaacagt     240
tcaaagcaga gaaactaaaa gagaagctaa aaatgaaaga acgggaagaa gcatgggtta     300
aaatagaaaa tctagccaaa gccaatcccc aggtactaaa aaagagaata acatgaaaac     360
gcccaggggtt acttgaatgt ttttataaga taggaatata tgtcttcacc atggggggggg     420
gtctcggatt tcactaacgt tgtatatgaa aatgggtgcn ataaaaagta cttttaaact     480
ttgt                                                                 484
```

<210> 646
<211> 447
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(447)
<223> n = A,T,C or G

<400> 646
```
gggtcgcgtt gaacaacttg gttcaagatg gtgggggcat ttttagagcg gcaataattg      60
```

```
aaaaaaaagg cgaactctgc cttggagagg tagatgataa gaaataaaaa ggtgtttata    120
actattttgt attataaagt gggccttaga gataggaaga agaatgatgg attccttttg    180
gatcaatcag aaaggaaaca cgaaagaaaa gtcaggaagg tagagagaga aaaagggagg    240
gaaggagaaa gaatgggaat aaaataagga ggtaagagat actatttttg ctgagcaacc    300
agtgtgtttc aggatgatac aaagaaaaat atagaataga aataagtgca ggcttggaat    360
cagctacaaa tcctaaagat ggggtgtgtg tggatgtgtg tgtgtgtgtg tgnacaccat    420
tgtgtgtttg taaaatgtgt atgtccc                                        447
```

```
<210> 647
<211> 388
<212> DNA
<213> Homo sapien

<400> 647
```

```
gaaggtgata taaaatgact gtcatcattt ggagtgtgca gtacagttac ttcatgttcc     60
tcaggtttag aacaatttcc cctgcaagtt ctcacacaga taggcagaaa tcataactaa    120
ttttggttaa tcactatggc agccgttgaa gaatttaaga gaacctgcca gtaagatttg    180
gaataagatt ctatattatt gcatccacag aaaagaatgt actgatatac tataaactct    240
aggagaaaac ttaattgaaa tagtgttatt aagtgttgaa agtaccataa aaatataagg    300
gaaaataagc tttcctagaa tttttcagtg ttctagtttt taaacagtga tgttttttat    360
taacctattt catccattca aagacagg                                       388
```

```
<210> 648
<211> 632
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(632)
<223> n = A,T,C or G

<400> 648
```

```
cctggctggg cntttgacct gcgnttttaa atnactcaca gagggtggga caggaggaag     60
agtgaaggaa aaggtcaaac ctgttttaag ggcaacctgc ctttgttctg aattggtctt    120
aagaacatta ccagctccag gtttaaattg ttcagtttca tgcagttcca atagctgatc    180
attgttgaga tgaggacaaa atcctttgtc ctcactagtt tgctttacat ttttgaaaag    240
tattattttt gtccaagtgc ttatcaacta aaccttgtgt taggtaagaa tggaatttat    300
taagtgaatc agtgtgaccc ttcttgtcat aagattatct taaagctgaa gccaaaatat    360
gcttcaaaag aagaggactt tattgttcat tgtagttcat acattcaaag catctgaact    420
gtagtttcta tagcaagcca attacatcca taagtggaga aggaaataga tagatgtcaa    480
agnatgattg gtggagggag caaggttgaa gataatctgg ggttgaaatt ttctagttnt    540
cattccgtac attttttagtt agacatcaga tttgaaatat taatgttacc tcctcaatgg    600
ggtggtatca gacctgcccg ggcggncgnn tc                                  632
```

```
<210> 649
<211> 300
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(300)
<223> n = A,T,C or G
```

<400> 649

```
nggtgaagat agaanaaata taagcgaaat tggataaaat agcactgaaa aaatgaggaa      60
attattggta accaatttat tttaaaagcc catcaattta atttctggtg gtgcagaagt     120
tagaaggtaa agcttgagaa gatgagggtg tttacgtaga ccagaaccaa tttagaagaa     180
tacttgaagc tagaagggga agttggttaa aaatcacatc aaaaagctac taaaaggact     240
ggtgtaattt aaaaaaaact aaggcagaag gctttggaag agttagaaga atttggaagg     300
```

<210> 650
<211> 498
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(498)
<223> n = A,T,C or G

<400> 650

```
ngtnctgnta aacagaaggg tacaangccc ttctggcttt aagcagtcat aggaatgtga      60
cagacattcc tcttagggag cgcctcctcc tagggtttcc tcatctgtct cacactgagt     120
ggatgtaatg ctattttaat cctgctgtgg cccccaatac tagtacttgt ccataccttc     180
ttgcattttt agcgtctgct ctgtggggtt gttaggccct ggcactccca ggaactagtg     240
ctaaagctgc atctntctct cccctctagg gatcgataaa gtttcactgc agaaagtctc     300
cactgcggta tgctgacatc tgccctgaac cttcacccta cagcattaca ggctttaatc     360
agattctgct ggaaagacac aggctgatcc acgtgacctc ttctgccttc actgggctgg     420
ggtgatcctt ggtgcctttg tttccacaag gccttttcct gcccctgcc ttgccaaaga      480
catttaatca gcacacag                                                   498
```

<210> 651
<211> 654
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(654)
<223> n = A,T,C or G

<400> 651

```
ctgagggtcc ccaggtttct aaagctctca ggacgagaaa gtaggtccca agataaggag      60
cctaaagggc ttttttcttt ctgtgtattc cttcttggcc tccaacatgg gtacagtcac     120
aagagcatgt aacagagaag aaggactana cctaccattt tctggataaa gaattggaaa     180
gaggatccac aggtaaccaa aaagtaccag ggaaatggca gagaaggaaa acctcaggag     240
accaacctca taagtggtat ttattagngc ctgggctcaa atccaaattg tacatgaata     300
tgtctggtcc tagatagggt accgaagact ttgaaagtga attttggtat atcattgccc     360
agattccaga ctggntattg tgtgacacaa catacaggat atatctgaat agtgctcaga     420
agagtttgaa aatgcaaatg atattaaaat aaagatgaaa aagagaaagc tggtcagaac     480
ttgtggacat aacccttctg gatctgtngc ctgattaaaa aatagttgat attctcgaat     540
gaattaaaac aagatttaga gactgagcat ggtagctnat tcttgtaatc caacnctttg     600
ggagggcaag gcaanagaat tgcttgcggc caggagtttt gagaccagct tggg          654
```

<210> 652
<211> 293

```
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(293)
<223> n = A,T,C or G

<400> 652
ngtctgttgc actgaggtga ctaaggatac attttgagga agtagctcca agaacatttc      60
cattttcact gtgccttcac atacatctaa tggaaatgaa cagcaccctt catccatcca     120
cggaagcgat taagaaaagg gtgggatgga aaaattaacc caacaatatt agatcaatac     180
gtagtattta agngtccata atgtgccagg ctgaagatgc acgggaaaac cacactagcc     240
ggtctgtcaa gggcttgaga ataccataaa caagaaaaca gacgaaccaa ttt           293


<210> 653
<211> 294
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(294)
<223> n = A,T,C or G

<400> 653
ngtccaccac tgcagcccta catacagttg aaaaaaaatt ccattctgtt aacatttgtt      60
ttataagttt tcacgcaata cacaaaaaac ccctctgcac ttcttgtaaa gaacaaaaaa     120
gatacacaac agttaagcgt aaagatcaca ggcaatagca ttcaaacatg gatgtgggta     180
gagaaaggag tacctggcat gagtacctgc ttagtttgac tgaatccttg attttttaatt    240
tggctttca tgggccgctc acaacaccaa cgctgtgtga ggtatggtag tcag            294


<210> 654
<211> 250
<212> DNA
<213> Homo sapien

<400> 654
ctgtccttga acaagtatca atgtgtttat gaaaggaaga tctaaatcag acaggagttg      60
gtctacatag tagtaatcca ttgttggaat ggaacccttg ctatagtagt gacaaagtga     120
aaggaaattt aggaggcata ggccatttca ggcagcataa gtaatctcct gtcctttggc     180
agaagctcct ttagattggg atagattcca aataaagaat ctagaaatag gagaagattt     240
aattatgagg                                                            250


<210> 655
<211> 494
<212> DNA
<213> Homo sapien

<400> 655
ccattataat tttataacac cattacccTt taaattctac cgattataag cagcgtaaaa      60
gtaactatat aaagcaaaca tcgcaaagga actctgcagg agctcttaat tcctttatgt     120
agctatcata aaattcactt tcctgaagac atttactctc attcacttcc aaactccaaa     180
ccttttctg gtagcaccac ttttgttttt aatagaaaga tgagttcata tctgtacatc     240
```

```
tctccaaagc tctaaggaat gagaaaagga tcctagtata ttgaaattac tgatgtttaa    300
tacctctgcc ttttcactaa aagccattta atattttaa agtcaaaact tgacatacag     360
gtatttataa ggaatctcca tgactctgaa ggaatgaaat tgatgtaggt agctttggct    420
atgtaaagac atagtagagg acaattactt aaagaagagt tttcttttga ggatttgtag    480
atttgactaa gcag                                                      494
```

```
        <210> 656
        <211> 477
        <212> DNA
        <213> Homo sapien

        <400> 656
cgcgttactg tacatattgc tagcaggaga caactggaaa tactaaacaa atactggaat     60
tcacattaca gacagacgaa accaacatgg atgccacaca taacttcctt tgtagtttca    120
cagagggcct atttgtggtt gctcaggtgg ggtcatacat tgcttgcaga aatggcctga    180
tcatagctct atgaaacaat gaattcggaa tgaaatctta ccatgacacc tctctgtagg    240
aaagaaatgt tgcttcacgt gtgctaagtt gagataataa tatttcacat atttatatac    300
agagaatcac tctcaaattt aacccaagat aagcaatagg atttgggggt gacttgtaca    360
catttctaac aacactttc ttttttctag aggtcactct caaacactga tatatcacta    420
tagtttgagt gtagggattc agtaatcaaa ggttgttatt gcaaagagc caggcag       477
```

```
        <210> 657
        <211> 576
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(576)
        <223> n = A,T,C or G

        <400> 657
cctctacctg tanatcacta tttttctaaa gacaatttgg tgttttgaag ataaatgtca     60
ttagtctatg ataatagcat cataggacaa ttagccattt tagacttgac catattttct    120
cttttagca tatagccatc ttgatattta ggtgggagac tactccaatg gagcaacagt     180
ttcattttac atgattggat ttagaaattt acaaatttta aactcataag aattctaaat    240
aatttgaaaa tggaaacatt tgacccacag tctagcagca taaatacatt tataaaatac    300
ttcattgttg atcttaggtc attgatttaa aacagaattt ggtgactatg ggcaggtgga    360
gggggccagt gaggaaggta taaaagagaa atctttatga attgtgttca gattgatttt    420
gtataaacat aatatattca tggttgtatc tcttatttat aatacccaac taacatgaag    480
gtggtccaag ggaaggatca atattttaaa taacatattt gcttaaaata tcatacagtg    540
gctgcttcat aaaaaatctt ataaactttt attacc                              576
```

```
        <210> 658
        <211> 344
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(344)
        <223> n = A,T,C or G

        <400> 658
```

```
cctgaaaaga aagntgctct tatggactct tgcatgttaa gactatgtct tcacatcatg    60
gtgcaaatca catgtaccca atgactccgg ctttgacaca acaccttacc atcatcatgc   120
catgatggct tccacaaagc attaaacctg gtaaccagag attactggtg gctccagcgt   180
tgttagatgt tcatgaaatg tgaccacctc tcaatcacct ttgagggcta aagagtagca   240
catcaaaagg actccaaaat cccatacca actcttaaga gatttgtcct ggtacttcag   300
aaagaatttt catgagtgtt cttaattggc tggaaaagca ccag                    344
```

```
<210> 659
<211> 230
<212> DNA
<213> Homo sapien


<400> 659
ctgctttccc tgctaaacag ttccagagca aaagcagcaa aaagaaaata tgggaggat    60
atgggcaacg tatactcgaa cgtacgcaga gaagagagta cggttagctc taatatttct   120
cattgaactt ggtggtatgt gccttccctg catataaggc catagtgctt ttttgggagc   180
gctagaatat ccatccactt gacagtgacc acaaatagg ctgtttccag                230
```

```
<210> 660
<211> 80
<212> DNA
<213> Homo sapien


<400> 660
ctggtccttg ttaaactcga tcaccacttt ggagagatcg actggaggct cctgggtgtt    60
ctgaggggcc tgggggacag                                                80
```

```
<210> 661
<211> 535
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(535)
<223> n = A,T,C or G


<400> 661
ctgaaccata tctgattaac tctttggtct ctgttattgg aacaaaaccg acgctatgcc    60
tgcagccgcc agactgcaac caaaaacaca gtttggggtc agaagacatt aaaaatcaca   120
ataaaatagg atgaatgttc taagtcacgc aactgaatca aggcaccttt ttttttcaaa   180
agcaaaaagt tgtttaacaa tattccagaa tagtagatac ttcaaaaacc agattacagt   240
atatatcatt ttgctgcaca ttttagtcta ttttctgtat acatagtcac acattcttta   300
ccctctccca acttatacat gctttatccc cccagtcatg tgctatgtag gtataaaaaa   360
ataaagttgt atctaaacaa gtgatttaaa aaaaaaact aacgaatgcc ncnatnataa   420
cnctgaactt gtttccctnt tgaaggacat tggaaatgtt accgaggttn ntttacctng   480
gccgcaaccn cnctangggc naattccagc ncactggggg ccgttactag gggat          535
```

```
<210> 662
<211> 257
<212> DNA
<213> Homo sapien


<400> 662
```

```
cctgactaaa gcacatatca cactccctac acttccatgt tttctctccc atgtggaccc      60
tctgatgcat atcaagattc aagcgcctgt tgtagccctt cccacagtcc tcacatttgt     120
atggcttttc tacactgtga actttttctt gcactttaga gaatgaattc tgtacaatgt     180
tcttcccatg ctgctcacat ttgagaggtg tttctctgct gtggcgtctc tgatgggtca     240
gacgagttga ggaccag                                                    257
```

```
        <210> 663
        <211> 516
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(516)
        <223> n = A,T,C or G

        <400> 663
ccaattatag gtattttatt ttttaaagat tagagngttc ttgaagctct ttctatttct      60
ttgtcaatga actaaacatt ggcaaatatg tagggtttcc cacataagaa cattattaac     120
atcaaaatag aaagctggtg gtagaaataa tgattgggaa cacagagtct ctactcagcg     180
ttctacttct gccataccat aactttgtga tctcacgaaa tatctctcca tgttctcatc     240
cctatgtata gttctgtcat ttttcaataa gagctttttg cttaattatg aagtactagt     300
tactataacc attattttga gcttcatgta aatcaagaac acatggactc cacttgcaaa     360
acattgaaaa tgtagttagg gattgggggc aaaaagcaac attttaaaat gtgtaaagac     420
aatgagtaag caacaaagtg tccaattttt taggcgaaag ttgcatatgt caggaaaagg     480
caggattaag taatagagaa tttgaatgat aactgg                              516
```

```
        <210> 664
        <211> 212
        <212> DNA
        <213> Homo sapien

        <400> 664
gtccgaggag gttagttgtg gcaataaaaa tgattaagga tactagtata agagatcagg      60
ttcgtccttt agtgttgtgt atggctatca tttgtttttga ggttagtttg attagtcatt     120
gttgggtggt aattagtcgg ttgttgatga gatatttgga ggtggggatc aatagagggg     180
gaaatagaat gatcagtact gcggcgggta gg                                    212
```

```
        <210> 665
        <211> 408
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(408)
        <223> n = A,T,C or G

        <400> 665
atccaggggt ncccggtngc tgcngggaaa cctccagcct tgttcttcaa accactcagc      60
tcatgtgttt tgcgctgact agtactgaat aatacaacca ctcttattta atgttagtat     120
tatttatttg acaactcagt gtctaacagc ttgatatgca ggtccttgca tcctacattt     180
ctttaggaag ttacccattt gtaactttaa aaacaggaaa aatatcagtt ggcaaatgca     240
atcttttttt tttttaagct aaaggggggn naacngnaan naaaatnttt ntgangtngg     300
```

```
gtctataagc acccttgang ggatntgtta aaagngncat naangggggga ttctcntttn    360
gcaaaaaaat ntaannatca atttatanan ctttatttt nactttnt              408
```

```
<210> 666
<211> 635
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(635)
<223> n = A,T,C or G

<400> 666
ctgaagnaca agggtcaggc aaaaataaga tcacaatcac caatgaccag aatcgcctga     60
cacctgaaga aatcgaaagg atggttaatg atgctgagaa gtttgctgag gaagacaaaa    120
agctcaagga gcgcattgat actagaaatg agttggaaag ctatgcctat tctctaaaga    180
atcagattgg agataaagaa aagctgggag gtaaaccttc ctctgaagat aaggagacca    240
tggaaaaagc tgtagaagaa aagattgaat ggctggaaag ccaccaagat gctgacattg    300
aagacttcaa agctaagaag aaggaactgg aagaaattgt tcaaccaatt atcagcaaac    360
tctatggaag tgcaggccct cccccaactg gtgaagagga tacagcagaa aaagatgagt    420
tgtagacact gatctgctag tgctgtaata ttgtaaatac tggactcagg aacttttgtt    480
aggaaaaaat tgaaagaact tanctctcga atgtcattgg aatcttcacc tcacagtggn    540
gttgaaactg ctatagccta agcnggctgt ttactgnttt ncattagcag gtgctcacca    600
tgtctttggg gtgggngggg ggagaaagaa agaan                               635
```

```
<210> 667
<211> 388
<212> DNA
<213> Homo sapien

<400> 667
gaaggtgata taaaatgact gtcatcattt ggagtgtgca gtacagttac ttcatgttcc     60
tcaggtttag aacaatttcc cctgtaagtt ctcacacaga taggcagaaa tcataactaa    120
ttttggttaa tcactatggc agccgttgaa gaatttaaga gaacctgcca gtaagatttg    180
gaataagatt ctatattatt gcatccacag aaaagaatgt actgatatac tataaactct    240
aggagaaaac ttaattgaaa tagtgttatt aagtgttgaa agtaccataa aaatataagg    300
gaaaataagc tttcctagaa tttttcagtg ttctagtttt taaacagtga tgtttttttat    360
taacctattt catccattca aagacagg                                      388
```

```
<210> 668
<211> 498
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(498)
<223> n = A,T,C or G

<400> 668
tgatcttaac aaaattcgta gcagtggaac cttgaaatgc atgtggctag atttatgcta     60
aaatgattct cagttagcat tttagtaaca cttcaaaggt tttttttgt ttgttttcta    120
gacttaataa aagcttagga ttaattagaa gaagcaatct agttaaattt cccatttgta    180
```

```
ttttatttc    ttgaatactt    ttttcatagt    tattcgttta    aaaagattta    aaaatcattg    240
cactttggtc    agaaaaataa    taaatatatc    ttatgaatgt    ttgattccct    tccttgctat    300
ttttattcag    tagatttttg    tttggcatca    tgttgaagca    ccgaaagata    aatgattttt    360
aaaaggctat    agagtccaaa    ggaatgttct    tttacaccaa    ttcttccttt    aaaaatntct    420
gaggaatttg    ttttcgcctt    actttttttt    cttctgtcac    aatgctaagn    ggtatccgag    480
gttnttaata    tgagattt                                                        498
```

        <210> 669
        <211> 622
        <212> DNA
        <213> Homo sapien

        <400> 669
```
ccttagccaa    agaatgcagt    ggagccttcc    cccttcaact    gcattgtgaa    tgaataccaa    60
ttaacagcat    aaaaattaat    agtcccatat    cagatctgga    aggggtttct    ggggctgtct    120
gatgtcccta    tcctgttgta    gtgaacacaa    tagcagaaaa    ttctttctgg    gtccatctgc    180
tataaagtct    tggtaaaaca    gcattactat    gaagaggatg    aactcaccta    ccttcagatg    240
gaggaaaagt    gaaaaggact    taggctttag    tcctccatga    cttttcttaa    gcactaccta    300
cctgtaataa    gctgagtgca    aaaggatgcc    gaagaaaatc    tgcacccaga    agctgttaga    360
aagcactgca    gagaacaggg    tatgaagaaa    ataaagagtt    cttaataaac    ccttaagatt    420
ctttgttcaa    ggtaaccttg    ccaaaagggc    agagtaggtg    gcaaagagtt    gcttttaatc    480
tagctctaca    ctgcatttga    aaataaaaatt   tgcccatttt    gaatatattg    tttataatta    540
aatgtgcttt    ttacactgca    ggtcaatata    aaaactggtt    agtaaatttc    cagcgagcat    600
ttatgttcat    ttgctcacag    ca                                                622
```

        <210> 670
        <211> 477
        <212> DNA
        <213> Homo sapien

        <400> 670
```
ttgggccctc    tagatgcatg    ctcgagcggc    cgccagtgtg    atggatatct    gcagaattcg    60
cccttgccgc    ccgggcaggt    gatggatgag    gagcaaaaac    tttatacgga    tgatgaagat    120
gatatctaca    aggctaataa    cattgcctat    gaagatgtgg    tcgggggaga    agactggaac    180
ccagtagagg    agaaaataga    gagtcaaacc    caggaagagg    tgagagacag    caaagagaat    240
atagaaaaaa    atgaacaaat    caacgatgag    atgaaacgct    caggcagct    tggcatccag    300
gaagaagatc    ttcggaaaga    gagtaaagac    caactctcag    atgatgtctc    caaagtaatt    360
gcctatttga    aaaggttagt    aaatgctgca    ggaagtggga    ggttacagaa    tgggcaaaat    420
ggggaaaggg    ccaccaggct    ttttgagaaa    cctcttgatt    ctcagtctat    ttatcag      477
```

        <210> 671
        <211> 127
        <212> DNA
        <213> Homo sapien

        <400> 671
```
gtgtgtgtgt    ctacttgggc    gtgtttaacg    tgtgcgtttg    tgtctgcgtg    tgcatgtgtc    60
tgtgtgtgcg    cgtgtatttc    agtttggggtt   gccggatccc    atatgattgc    gtgcctgtgt    120
acctgag                                                                      127
```

        <210> 672
        <211> 400
        <212> DNA
        <213> Homo sapien

```
       <400> 672
gggtctgcac agctatgtta acagcatcct tataccagga gtaggaggaa agacacgact      60
ggaaaagcaa ttcaagctgg tcacacagtg taatgcaaaa tatgtggaat gtttcagtgc     120
tcagaaagag tgtaacaaag aaaagaacag aaactcttca gttgtgccat ctgagcgtgc     180
tcgagtgggt cttgcaccat tgcctggaat gaaaggaaca gattacatta atgcttctta     240
tatcatgggc tattatagga gcaatgaatt tattataact cagcatcctc tgccacatac     300
tacgaaagat ttctggcgaa tgatttggga tcataacgca cagatcattg tcatgctgcc     360
agacaaccag agcttggcag aagatgagtt tgtgtactgg                          400


       <210> 673
       <211> 600
       <212> DNA
       <213> Homo sapien


       <220>
       <221> misc_feature
       <222> (1)...(600)
       <223> n = A,T,C or G


       <400> 673
ctggcgttgc tcattagtga atgtatgaca gcaggatgtg aggggatgcc caggagtcag      60
tgttagcatt gtcatctgag atcactgcta ttaatatcat ccattaattt attagtgagc     120
ttcactatat gcagactggg agataaggag aaaatctgtc acattctctc tagctaatca     180
gatcagctac caattaatga gattctgaat gaaatatcaa tatgtgtttt tctaatttgg     240
acctaggaca gagctgttgc ttgtcataga gaaaaacaat aatgcttaaa catagcacat     300
tataattaaa gcaggtttct cacatacttt tcattttatc ctttggataa ttttgtgagg     360
aacgcaggac accaacttcc ctttcataga tacaatcccc atgctattga tgaaagtgtt     420
tttgaatgaa gccatacaac aaataactga tcaaagtggc attacaccaa aatttcttag     480
taggactcct gcatagaatg tttagataga cgtgaaaagt ttgttcanga ggaccagcaa     540
gagagaaact gggttctttg ggagggtttc ggtgctacat ttatacnct catcagagtn     600


       <210> 674
       <211> 140
       <212> DNA
       <213> Homo sapien


       <400> 674
ggtggttggt gtaaatgagt gaggcaggag tccgaggagg ttagttgtgg caataaaaat      60
gattaaggat actagtataa gagatcaggt tcgtccttta gtgttgtgta tggctatcat     120
ttgttttgag gttagtttga                                               140


       <210> 675
       <211> 245
       <212> DNA
       <213> Homo sapien


       <400> 675
gttgggtggt tggtgtaaat gagtgaggca ggagtccgag gaggttagtt gtggcaataa      60
aaatgattaa ggatactagt ataagagatc aggttcgtcc tttagtgttg tgtatggcta     120
tcatttgttt tgaggttagt ttgattagtc attgttgggt ggtaattagt cggttgttga     180
tgagatattt ggaggtgggg atcaatagag ggggaaatag aatgatcagt actgcggcgg     240
gtagg                                                               245
```

<210> 676
<211> 621
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(621)
<223> n = A,T,C or G

<400> 676

```
ctgtccccag ggnaaatagt ngaattcaac taagatctgt taataagatg tcagaataac      60
taataatttt attaggaaaa aatcatgttt taaatttcaa aatgacactt atttgtcaag     120
taatatgatc ttggaaaatt ttaaagaaaa ataatcctac ttataaacta cttttttata     180
attgttttca gaaaaaaagt ttacagtctt aaggaaaata ttcaggtcta tcatatggtt     240
tgacagattt tttaaaagtt atttttggta aggtcttctt ttagaaaaaa attaatctca     300
agggtttttt gtaccactat aatctctaat acttactcag aattactgtg tatttactta     360
atttcttatt atgtgcctta ttatgtgctt aagatacaat aggttagagt ttaatctaaa     420
tatcttgaaa gctatattgt gggcttggta agcattttgt tttttctttc tctgttttgg     480
taaggattta aaattttttt cattgcaatt ttaagtggtt ttcaataagt aatagttttt     540
atcaaatttt tggtgcttgg tgcagagacg gcgtggggaa gggtgaatgg ttttgggaat     600
aattcagtgc acacctgggg g                                               621
```

<210> 677
<211> 210
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(210)
<223> n = A,T,C or G

<400> 677

```
tttacataan atattatcag catttaccat ctcacttcta ggaatactag tatatcgctc      60
acacctcata tcctccctac tatgcctaga aggaataata ctatcactgt tcattatagc     120
tactctcata accctcaaca cccactccct cttagccaat attgtgccta ttgccatact     180
agtctttgcc gcctgcgaag cagcggtagg                                      210
```

<210> 678
<211> 383
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(383)
<223> n = A,T,C or G

<400> 678

```
gtaggagtca ggtagttagg gttaacgagg gtggtaagga tggggggaat tagggaagtc      60
agggttaggg tggttatagt agtgtncatg gttattagga aaatgagtag atatttgann     120
aactgattaa tgtttgggnn tgagtttnta tatcacagcc anaattntat gatgnaccat     180
gtancgaaca atgctacagg gatgaatatt atggagaagt antctanttt gaagcttagg     240
```

gagagctggg ttgtttgggt tgnggctcan tgtcagttcc anataataac ttcttggtct   300
aggcacatga atattgttgt ggggaanaga ctgataataa aggtggatgc gacaatggat   360
tttacataat gggggtatna gtt   383

        <210> 679
        <211> 371
        <212> DNA
        <213> Homo sapien

        <400> 679
aaaatgaaaa tattgacaag agtttcagat agaaaatgaa aaacaagcta agacaagtat   60
tggagaagta tagaagatag aaaaatataa agccaaaaat tggataaaat agcactgaaa   120
aaatgaggaa attattggta accaatttat tttaaaagcc catcaattta atttctggtg   180
gtgcagaagt tagaaggtaa agcttgagaa gatgagggtg tttacgtaga ccagaaccaa   240
tttagaagaa tacttgaagc tagaagggga agttggttaa aaatcacatc aaaaagctac   300
taaaaggact ggtgtaattt aaaaaaaact aaggcagaag gcttttggaa gagttagaag   360
aatttggaag g   371

        <210> 680
        <211> 176
        <212> DNA
        <213> Homo sapien

        <400> 680
cctaggattg tggggcaat gaatgaagcg aacagatttt cgttcatttt ggttctcagg   60
gtttgttata attttttatt tttatgggct ttggtgaggg aggtaagtgg tagtttgtgt   120
ttaatatttt tagttgggtg atgaggaata gtgtaaggag tatgggggta attatg   176

        <210> 681
        <211> 152
        <212> DNA
        <213> Homo sapien

        <400> 681
ctggagatgg atatgagact agtcaagatg tgaatgctaa ttggagagaa atataatttt   60
aggaagatgc acattgatgt ggggttttga tgtgtctgat tttgactact caagctctgt   120
ttacagaaga aaattgaatg gcgagggtgt gg   152

        <210> 682
        <211> 141
        <212> DNA
        <213> Homo sapien

        <400> 682
ccagtgcttg cttgccgtgg tttagtgatt gggtgttaga aataaaaact caggtctatt   60
tcttaccagt cagtaacaat ttttagagaa tgtacttggt atataatata tggacttcag   120
gaactttgtt ggggtggggg g   141

        <210> 683
        <211> 308
        <212> DNA
        <213> Homo sapien

        <400> 683

```
ccagcaatgg tacagagtga gggtgttctg ctaatgactt cagagaagta tttaagaaaa      60
acatagaaaa acgtgtgcgg agtttgccag aaatagatgg cttgagcaaa gagacagtgt     120
tgagctcatg gatagccaaa tatgatgcca tttacagagg tgaagaggac ttgtgcaaac     180
agccaaatag aatggcccta agtgcagtgt ctgaacttat tctgagcaag gaacaactct     240
atgaaatgtt tcagcagatt ctgggtatca aaaaactaga acaccagctc ctttataatg     300
catgtcag                                                             308
```

        <210> 684
        <211> 277
        <212> DNA
        <213> Homo sapien

        <400> 684
```
tggtattagg attaggatgt gtgaagtata gtacggatga gaaggttggg gaacagctaa      60
ataggttgtt gttgatttgg ttaaaaaata gtagggggat gatgctaata attaggctgt     120
gggtggttgt gttgattcaa attatgtgtt ttttggagag tcatgtcagt ggtagtaata     180
taattgttgg gacgattagt tttagcattg gagtaggttt aggttatgta cgtagtctag     240
gccatatgtg ttggagattg agactagtag ggctagg                             277
```

        <210> 685
        <211> 457
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(457)
        <223> n = A,T,C or G

        <400> 685
```
ctgtggcgtn ccctacttct cccaaacctc gcaactccct cccaggacag tcagtgccaa      60
agaaacaggt cgctgaaaac taaaatgtcc acatccctaa ctggcaaccc acatcaaccc     120
caaaaggttg aagaatcatc taagatattt cagatgctct atgaagaaat tcactttaac     180
acttataact gtaagacttt gcatacatta caacagtgca ttagtgatac aagttgtaaa     240
atacgtttcc attcctttgg attttgcata tgatggtttt gcatcagtca ctgcaggtag     300
attgagcaag ctttttgtgt ttgtttttttt aaacatgcat tcaactagat atgattcaga     360
atagattaat actcccttttt tatcactaca gttagctaaa aaattgccag gcagtccaca     420
aaacagaatt tgctttaaga ccaacccaca gagtcag                             457
```

        <210> 686
        <211> 234
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(234)
        <223> n = A,T,C or G

        <400> 686
```
ntggatttat aaaatagttg caatgacaaa agaagtatgt tttgacagta aaaaaaagac      60
attatggaca aaatatgcaa aatgtgcaaa gaaaaaataa atttgcatta gaaaggtggg     120
catttgatct ctgagccctg tgccatgtaa cattgccatg ttctttcact gttgtttgaa     180
tgttgtaccc cagcccttga ctctggactt aaggcaagct atgactggct ttgg          234
```

```
<210> 687
<211> 315
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(315)
<223> n = A,T,C or G

<400> 687
nngtctgtga aaaactcttt ggatgattct gccaaaaagg tacttctgga aaaatacaaa      60
tatgtggaga attttggtct aattgatggt cgcctcacca tctgtacaat ctcctgtttc     120
tttgccatag tggctttgat ttgggattat atgcacccct ttccagagtc caaacccgtt     180
ttggctttgn gtgtcatatc ctattttgtg atgatgggga ttctgaccat ttatacctca     240
tataaggaga agagcatctt tctcgtggcc cacaggaaag atcctacagg aatggatcct     300
gatgatattt ggcag                                                      315


<210> 688
<211> 522
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(522)
<223> n = A,T,C or G

<400> 688
ctgaattaga ggaggagaaa agaagccatt nnggagtact ttaattgttt agatgtgaga      60
ggctgaatgt ttgggttaag atgttagttg tcagaatcat gagaaaaggt tttaagcaag     120
gggcatttct aattctaaaa ataacaacta ctgttattta ttgagcacta tcttttttgtt    180
gggtactgtc taaagtactt gatttatttt ttaaaacctt acaaaaaact tacaaggtag     240
gtactgaaag attcagtaat ttgttcaaag tcacacagca aataagcaac agactctgga     300
tttgaaccag gcaatcctag agcctgtact gttagtaatt atactttagc acctgtcaag     360
aattcctgtt gagtgtcaag aagcaancac caagttagga tttaaagcaa acatgattga     420
agaatactgt ggtgtggttg acagtagtgc ctaagtctgt tttcagagtg aaaaatgaca     480
aattagattt taagtatggt ttggagataa tatcaggaca gt                       522


<210> 689
<211> 158
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(158)
<223> n = A,T,C or G

<400> 689
tctcaactta ntntnatacc cacacccacc caanaacagg gtttgttagg nattgtttgc      60
attaataaat taaagctcca tagggtcttc tcgtcttgct gtgtcatgcc cgcctcttca     120
cgggcaggtc aatttcactg gttaaaagta agagacag                            158
```

<210> 690
<211> 300
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(300)
<223> n = A,T,C or G

<400> 690
```
tagaactcgt attttaaaac ttctattctc tancctttc cactacatta tgacacaaga      60
ccctgcagaa agtcgtctgg aaaatatcag accatctctt acttgtccca tccaatctta     120
catcgaatta tatgcaccct taaaaagtta tttggagttt taaaaaactc tattagccca     180
aattacctga aataaactcc tggcttgttc ccctaatgtt tataaaaaat tgattgaaaa     240
tattcatttt aaaaatgaag ntcttgaatt tatttaaatt actgtcttgc agtgagttgg     300
```

<210> 691
<211> 305
<212> DNA
<213> Homo sapien

<400> 691
```
ctgttcagaa agctcattgg acctggtttt gaaaataaaa caaagttaaa accctgggag      60
gagttattgt gcagtgtgga gtactcaggc tttcttataa agaaaaaaaa agttatctgg     120
taccaaagtg tgcaacctac agaccctcag gtactgccct gtgacttctc tgtatgacat     180
cacaaggctg ccaagtgcct gtttttctag aactaggagt tggtgaggtt tggctagtgc     240
tgaaaccatg cataggattg gtttactaaa ttaaaacctt attacgtacg tcctccaaaa     300
gacag                                                                 305
```

<210> 692
<211> 582
<212> DNA
<213> Homo sapien

<400> 692
```
caggaaatgg ataaccattt taactgtatt ttttgcagcc cgtaccttct tgggaataca      60
attgtctaac tttttatttt tggtctggct gttgtggtgt gcaaaactcc gtacattgct     120
attttgccac actgcaacac cttacagatg tggaagatgt gaaatttgtc atcaattatg     180
actaccctaa ctcctcagag gattatattc atcgaattgg aagaactgct cgcagtacca     240
aaacaggcac agcatacact ttctttacac ctaataacat aaagcaggtg agcgacctta     300
tctctgtgct tcgtgaagct aatcaagcaa ttaatcccaa gttgcttcag ttggtcgaag     360
acagaggtgc aggtaaggat gactgatagg aaatgttggt agttacgagt cacatcgttg     420
tctacaaatc catttaaatg gtattggagg gtgagtaaaa ccttgaatgt gaaaacttaa     480
gctgaaaaat tgtaaaaaca tttcacgcct accatgaata gatctgtttc tttctgtcca     540
caatgatttg tgtcatagac ataattgatc aatttgcaat tg                       582
```

<210> 693
<211> 275
<212> DNA
<213> Homo sapien

<400> 693

```
ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt      60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct     120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg     180
gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaaggtg     240
ataagctctt ctatgatagg ggaagtagcg tcttg                                275
```

```
        <210> 694
        <211> 397
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(397)
        <223> n = A,T,C or G

        <400> 694
nggtctgcat ttttattgcg atctgcagat gaactggaaa atctcatttt acaacagaac      60
tgagacagac gaccaccata ttcactgagg tctaaatttg cagtttccac taatgacatt     120
ttgatttccc aacagagata cttctggtct tactgcacag tcttttaaga gaaatacttc     180
cattatgcca cattgtcctt gatccgtaag tgatgtgtta aggtgcttca aaggaactct     240
gacctctgaa gtacttgagc tactttagta tgtccagcct attgcttttt gttttagtgt     300
gtcaccataa atatcagggg cataaaaggc tatctattct taattcaagg ataaaacaga     360
agaagcttgt ggtataaaac aatagttcaa gatccag                              397
```

```
        <210> 695
        <211> 609
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(609)
        <223> n = A,T,C or G

        <400> 695
ctgagcttcc atttgtcagc tagcactgng gtagtcaacc atgcgaatga ggctattttg      60
gacctcatga ttgtccagtg cctgggctga taccgnggga aacgaaattt tgtggctgcc     120
cacaaaatca tggaaaataa tgattttta gaaaacctcc actgntttgt tgtgcagcaa     180
taaataactg aaacaccaat ccaaaaaact tataaagcta taacaattaa aacagnataa     240
taatagtncc gggatacaaa aatggtcaaa ttgaagagga tacaaagcct caaagcagtc     300
ctcactcata ananccttgt tgtatcacta aaanggcatt aaaattgaga anaaggaana     360
actagtggat taattaataa atgagaagta tccataagga aaaattaaaa ttnnattctt     420
gcttcacatt atgaaaaaat acaaacaaca gattgattaa agacttaaat gngatcaaca     480
aaatgttaaa actgtgataa gaacatttaa gaaaatagtt ctatnaccct gggataaaac     540
attttcntcc aaggcattaa agtgttaaat gaaaagactg atncatttat tcattagaat     600
ttaaattcn                                                             609
```

```
        <210> 696
        <211> 300
        <212> DNA
        <213> Homo sapien

        <400> 696
```

```
ctgcaaaata agcgtgctaa attaaattgt cttaaggttt ttccacttca ttttgtgact      60
ttgtgtggtt cgaatttctc agtatttaa ccagtgtgtt gatgttaaag tcaaaggctg      120
cagtatgtct atattcttgc tgtactcatt ggtagtttca gtatatgtaa tgtgagttta      180
aatagtgaaa ttgtatctca tattaacatt tcaaatgctc atattgaaaa tggaaaatag      240
taaacacggg aattgatttt attctggttg tctataatac ttcattttaa atgtaaatgg      300
```

        <210> 697
        <211> 391
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(391)
        <223> n = A,T,C or G

        <400> 697
```
nngtcatgtn tgatgnatct gancaggttg ctccacaggt agctctagga gggctggcaa      60
cttagaggtg gggagcagag aattctctta tccaacatca acatcttggt cagatttgaa      120
ctcttcaatc tcttgcactc aaagcttgtt aagatagtta agcgtgcata agttaacttc      180
caatttacat actctgctta gaatttgggg gaaaatttag aaatataatt gacaggatta      240
ttggaaattt gttataatga atgaaacatt ttgtcatata agattcatat ttacttctta      300
tacatttgat aaagnaaggc atggttgtgg ttaatctggt ttatttttgn tccacaagtt      360
aaataaatca taaaacttga acaaaaaaaa a                                     391
```

        <210> 698
        <211> 536
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(536)
        <223> n = A,T,C or G

        <400> 698
```
ctgagcatac agcaataaaa ataacataat ttttatgtgt acaatattta tggaatacgt      60
tactggaaca gataaataat ttagttaata acatgacaaa gaacagaaat tgtatacact      120
atacagcata gtaatagaat aatgaatgat taaagttatt aatattaggt agaaaatgaa      180
gggtatcttt gagagcagaa ctcaaggaag caagcaattt gccttatgag gaaagagtta      240
cctgtggata aaggagaaac tgaaaaattt acaagtcaag acttttttgag caaagacaaa      300
aatatgacta tgagtcacca attcagtaca gtgaaaaaaa agttgaagag atatcttgga      360
agtaaaccat gttgtggaag agcagggttt tgataatcat gggattattc tgaatgaatt      420
ttaaatgcga taggaatata tgagataatt tcaccagaga ataatatgat catgtttgca      480
tttcaaaggg gtgtatctgg tgcactgngt agaataaata ggntatgtga gcaagt        536
```

        <210> 699
        <211> 419
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(419)

```
<223> n = A,T,C or G

<400> 699
ngtccacctg agggcaggtg acaaggacct gacagagccc atgcagggct ttagatttgg      60
acacacaaga gttgataact tcctcatgaa ctccttgcct gatctaaact catattatgg     120
gttctgactg tttgagtaat catcttcaag gttaaacctc ttggcagtta ccctttttcac    180
aaagtgcaca gtgggaatcg agaatcgata gggttaattt tggagcagtg gcttatacca     240
ttcacctctg tttttttgtg attatttcac agataatgag accttaataa caaataggcg     300
taaaaaaatt ttcacattga aatgatagaa acatttgatg taataaaact tggttggctt     360
gatattttaa ggaattgaaa cctagcaatc ttattggaga gacaagaatt ggtctccag      419


<210> 700
<211> 336
<212> DNA
<213> Homo sapien

<400> 700
ccacttattg tccttaaaaa tccatactga tacatggaca gtaagtgtgt tttcagatgg      60
agtaccagca ccgaaaatgg gttgagggag gatgggttgt atgtatgttt ctgcccacta     120
attttgagca gccatattat gaattaaatc gtcacagcca agtaataacc caagaatggt     180
atgagtttca tgtgtaatag ctcaaatgga ataagcatga atgctggagt ggaccattat     240
cctcaaatat tctatgtcac ttctcattta aagactcttg ttatgaacta ttagaaactt     300
taggcaaaat caaaagtatt tgcggcaaaa taaagg                                336


<210> 701
<211> 418
<212> DNA
<213> Homo sapien

<400> 701
ccatgtgatg atgttgacaa cccctgaaga gcctcagtcc attgttccac gtttaagaac      60
taggaatacc aggactgatg caattctact gggtcactat cgcttgtcac aagacacaga     120
caatcagacc aaagtatttg ctgtaataac taagaaaaaa gaagaaaaac cacttgacta     180
taaatacaga tattttcgtc gtgtccctgt acaagaagca gatcagagtt ttcatgtggg     240
gctacagcta tgttccagtg gtcaccagag gttcaacaaa ctcatctgga tacatcattc     300
ttgtcacatt acttacaaat caactggtga gactgcagtc agtgcttttg agattgacaa     360
gatgtacacc cccttgttct cgccagagt aaggagctac acagctttct cagaaagg        418


<210> 702
<211> 261
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(261)
<223> n = A,T,C or G

<400> 702
gggcctgttg tggggtgggg ggaagcaggg aggggaacag ctaaataggt tgctgttgat      60
ttggttaaaa aatagtaggg ggatgatgct aataattagg ctgnggggtgg ttgtgttgat    120
tcaaattatg tgttttttgg agagtcatgt cagtggtaga aatataattg ttgggacnat     180
tagntttagc attggagtag gtttaggtta tgtacgtagt ctaggccata tgtgttggan    240
attgagacta gtagggctag g                                                261
```

```
<210> 703
<211> 261
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(261)
<223> n = A,T,C or G

<400> 703
gggcctgttg tgggggtggg ggaagcaggg aggggaacan ctaaataggt tgctgttgat      60
ttggttaaaa aatagtaggg ggatgatgct aataattagg ctgngggtgg ttgtgttgat     120
tcaaattatg tgtttttgg agagtcatgt cagtggtagt aatataattg ttgggacnat      180
tagntttagc attggagtag gtttaggtta tgtacgtagn ctaggccata tgtgttggag     240
attganacta gtagggctag g                                              261


<210> 704
<211> 381
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(381)
<223> n = A,T,C or G

<400> 704
ngtntgaatt ctattaaaga tacaaagagg agctggtacc atttcttctg aaactattac      60
aaacaactga aaaggtggaa tttctcccta attcatttta ggaggccagc attatactga     120
taccaaaacc tggcagaggt acaataataa aaggaaactt caagtcagta tcactgatga     180
acaccaatgt gaaaatcctc aataaaatac tggcaaactg aattcagcag cacatcaaaa     240
agctaatcca ccacaatcaa gtcagcttca tccctgcgat gcaagtctgg ttcaacatat     300
gcaaatcaat aaatacaatt catcagataa acagagctaa agacaaaatt cacatgattt     360
tctcaataga tgcagaaaag g                                              381


<210> 705
<211> 477
<212> DNA
<213> Homo sapien

<400> 705
ctgaaccctc gtggagccat tcatacaggt ccctaattaa ggaacaagtg attatgctac      60
ctttgcacgg ttagggtacc gcggccgtta aacatgtgtc actgggcagg cggtgcctct     120
aatactggtg atgctagagg tgatgttttt ggtaaacagg cggggtaaga tttgccgagt     180
tcctttttact tttttaacc tttccttatg agcatgcctg tgttgggttg acagtgaggg     240
taataatgac ttgttggtga ttgtagatat tgggctgtta attgtcagtt cagtgtttta     300
atctgacgca ggcttatgcg gaggagaatg ttttcatgtt acttatacta acattagttc     360
ttctataggg tgatagattg gtccaattgg gtgtgaggag ttcagttata tgtttgggat     420
tttttaggta gtgggtgttg agcttgaacg ctttcttaat tggtggctgc ttttagg       477


<210> 706
<211> 266
```

```
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(266)
<223> n = A,T,C or G

<400> 706
ccatggctag gtttatagat agttgggtgg ttggtgtaaa tgagtgaggc aggagtccga      60
ggaggttagt tgtggcaata aaaatgatta aggatactan tataagagat caggntcgtc     120
ctttagtgtt gtgtatggct atcatttgtt ttgaggntag tttgattagt cattgttggg     180
tggtaattag tcggttgttg atgagatatt tggaggtggg gatcaataga gggggaaata     240
gaatgatcag tactgcggcg ggtagg                                          266


<210> 707
<211> 358
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(358)
<223> n = A,T,C or G

<400> 707
ccatcagaga aatgcaaatc aaaaccacaa tgagatacca tctcacacca gttagaatgg      60
caatcattaa aaagtcagga aacaacaggt gctggagagg atgtggagaa ataggaacac     120
ttttacaccg ntggtgggac tgtaaactag ttcaaccatt gtggaagtca gtgtggcgat     180
tcctcaagga tctagaacta gaaataccat ttgacccagc cggccaatat tcaacattct     240
taaaggaaag aattttcaac ccagaatttc atatccagcc aaactaagct tcgttagtga     300
aggagaaata aaatacttta cagacaagca aatactgaga gattttgtca ccaccagg       358


<210> 708
<211> 491
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(491)
<223> n = A,T,C or G

<400> 708
cctactatgg gngttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga      60
gctgttcctc tttggactaa cagttaaatt tacaagggga tttagagggt tctgtgggca     120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt     180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt     240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag     300
ttatttctag ttaattcatt atgcagaagg tatagggggtt agtccttgct atattatgct     360
tggttataat ttttcatctt tcccttgcgg tactatatct attgcgccag gtttcaattt     420
ctatcgccta tactttattt gggtaaatgg tttggctaag gttgtctggt agtaagggng     480
gagtgggttt g                                                          491
```

```
<210> 709
<211> 460
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(460)
<223> n = A,T,C or G

<400> 709
nggttttttt tgtagagcaa ataatttatg caaaatatgt tacaaaatct gggatgctaa      60
atagttgaca caagtactgt gtttgacatt tagtttcatt tgaattagta atagaatttg     120
ctccttccaa catttacatc ttttttcttt ctgactttat atattttcaa taaaaatttg     180
ctccacagtt tttaagntca ttcttcttga atccgntttt acatttgctg ngacaaacct     240
gcataaaact agattttata gatataactt ctttggaaga gataaaaatt caaaagtttg     300
acattgcttt canttattct tttcttcatt gttttgattg gcccctgtta gattgatgta     360
ttgccaatct acttttgatg gcatgaatnt aaaatgacaa cataaaaagc ncttctagtg     420
caacagtaat tgaaacttgc agttttccat taaaaaaaaa                            460


<210> 710
<211> 542
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(542)
<223> n = A,T,C or G

<400> 710
ctgttacagt gacaagagat aaaaagatag acctgcagaa aaaacaaact caaagaaatg      60
tgttcagatg taatgtaatt ggagtgaaaa actgtgggaa aagtggagtt cttcaggctc     120
ttcttggaag aaacttaatg aggcagaaga aaattcgtga agatcataga tcctactatg     180
cgattaacac tgtttatgta tatggacaag agaaatactt gttgttgcat gatatctcag     240
aatcggaatt tctaactgaa gctgaaatca tttgngatgt tgtatgcctg gtatataatg     300
tcagcaatcc caaatccttt gaatactgtg ccaggatttt taagcaacac tttatggaca     360
gcagaatacc ttgcttaatc gtagctgcaa agtcagacct gcatgaagtt aaacaagaat     420
acagtatttc acctactgat ttctgcagga aacacaaaat gcctccacca caagccttca     480
cttgcaatac tgctgatgcc cccagtnagg atatctttgt taaattgaca acaatggacc     540
tg                                                                    542


<210> 711
<211> 394
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(394)
<223> n = A,T,C or G

<400> 711
caaacccact ccaccttact accagacaac cttagccaaa ccatttaccc aaataaagta      60
```

```
taggcgatag aaattgaaac ctggcgcaat agatatagta ccgcaaggga aagatgaaaa      120
attataacca agcataatat agcaaggact aacccctata ccttctgcat aatgaattaa      180
ctanaaataa ctttgcaagg agagccaaag ctaagacccc cgaaaccaga cgagctacct      240
aagaacagct aaaagagcac acccgtctat gtagcaaaat agtgggaaga tttataggna      300
gaggcgacaa acctaccgag cctggtgata gctggttgtc caagatagaa tcttagttca      360
actttaaatt tgcccacaga accctctaaa tccc                                 394
```

        <210> 712
        <211> 552
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(552)
        <223> n = A,T,C or G

        <400> 712
```
gaggtctgta naatgccagg ctcaaatttg tctttataat ttaataccag aaatctttcc       60
cttgtgatgt ttctttcttt ctggattgcc tctatagcag gggatagcgg gggaggataa      120
ggcacatctt tgntgtactg agaaatttga ccacgcagga tgatgtggct gttctcattc      180
atctgcacag agaaaaataa tgataaaata tccctttcct atgtttactg attttatggc      240
tgccataatg gaagcctcct tgactattta atcctttctg tcaactaggt tcgattttt      300
ttttaattta cctgttagag gtatttaana attttaacta gctanaaata attacattcc      360
aaaggaacac caaggcaaat aaatggttgg taatcagcaa aagaattaca ttagttgttg      420
ntgctactta ttagggggag aactgttttt ttttaaattt aaacaattta ataatctcaa      480
ctgcaaataa ttttagatgc agcaaaggac tatgtagncg ttaatacctc atgttgatat      540
tttcataata tt                                                         552
```

        <210> 713
        <211> 518
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(518)
        <223> n = A,T,C or G

        <400> 713
```
ccaaaaactg gaagcagctc actaaacaaa cagtggcata cccatagaac tgcatacttc       60
tcagcagtat gaaagaatga gctacttata taagcatcat tgataaacct caaaaaaaaa      120
atgccacatg aanaaaccca aaggggganaa acataaaaac tttatatgtc agtcatataa      180
aattctanaa aatgcaaact aatccatcnt aaaggaaagt aaatcaacag ttgtctggag      240
gaccananag agcaggagga ganagattat taaagggggtt aaagtaaatt tgggagtgcc      300
cttccntttt taaatnctat gaaaatgaaa gtaaaggcnc atgcatgttg taaactaata      360
gtaacaaaca naatgggttg gagtggggtg ttgtctgggg acatcattac aaaatgtaag      420
ccagtttatn taaattttga aaagaccgtg gactctgatc tgactgatna atgttggaag      480
agataagtgt gctgcaaatg ggggaattaa taaaacag                             518
```

        <210> 714
        <211> 281
        <212> DNA
        <213> Homo sapien

<400> 714

```
ccaattgatt  tgatggtaag  ggagggatcg  ttgacctcgt  ctgttatgta  aaggatgcgt      60
agggatggga  gggcgatgag  gactaggatg  atggcgggca  ggatagttca  gacggtttct     120
atttcctgag  cgtctgagat  gttagtatta  gttagttttg  ttgtgagtgt  taggaaaagg     180
gcatacagga  ctaggaagca  gataaggaaa  atgactatga  gggcgtgatc  atgaaaggtg     240
ataagctctt  ctatgatagg  ggaagtagcg  tcttgtagac  c                          281
```

<210> 715
<211> 443
<212> DNA
<213> Homo sapien

<400> 715

```
cttgaaatca  gcaacacact  tacaaatgag  aaaatgaaaa  tagaagagta  tataaagaaa      60
gggaaagagg  attatgaaga  gagtcatcag  agagctgtgg  ctgcagaggt  atccgtactt     120
gaaaactgga  aggagagtga  agtgtataag  ctacagatca  tggagtcaca  agcagaagcc     180
tttctgaaga  agctggggct  gattagccgt  gatcctgcag  catatcccga  catggagtct     240
gatatacgtt  catgggaatt  gtttctttct  aatgttacaa  aagaaattga  gaaagcaaag     300
tctcagtttg  aagaacaaat  taaggcaatt  aaaaatggtt  cccggctcag  tgaactttct     360
aaagtgcaga  tttctgagct  ttcatttcct  gcctgtaaca  cggttcatcc  cgagttactc     420
cctgagtctt  caggccacga  tgg                                                 443
```

<210> 716
<211> 639
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(639)
<223> n = A,T,C or G

<400> 716

```
ccaaanaaaa  tgaagtacag  agtctgcata  gtaagcttac  agataccttg  gtatcaaaac      60
aacagttgga  gcaaagacta  atgcagttaa  tggaatcaga  gcagaaaagg  gtgaacaaag     120
aagagtctct  acaaatgcag  gttcaggata  ttttggagca  gaatgaggct  ttgaaagctc     180
aaattcagca  gttccattcc  cagatagcag  cccagacctc  cgcttcagtt  ctagcagaag     240
aattacataa  agtgattgca  gaaaaggata  agcagataaa  acagactgaa  gattctttag     300
caagtgaacg  tgatcgttta  acaagtaaag  aagaggaact  taaggatata  cagaatatga     360
atttcttatt  aaaagctgaa  gtgcagaaat  tacaggccct  ggcaaatgag  caggctgctg     420
ctgcacatga  attggagaag  atgcaacaaa  gtgtttatgt  taaagatgat  aaaataagat     480
tgctggaaga  gcaactacaa  catgaaattt  caaacnaaat  ggaagaattt  angattctaa     540
atgaccaaaa  canagcatta  aaatcagaag  ttcagaagct  gcagactctt  gtttctgcac     600
angcctaata  aggatgntgn  ggaacaaatg  gaaaaattg                              639
```

<210> 717
<211> 473
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(473)

```
        <223> n = A,T,C or G

        <400> 717
nntgaggcta ctgctgtttt attacaacat tacctcttgt ttttataaag tgtaccaaga        60
tttaaattga taactttatt ttacttgaaa aaaaaaagtt tnttttatca ccagtgttac       120
agttgtcttc tgtttctttt tgttttgntt tatttgnttt cctttttagc caaagagtga       180
acagaanatt ttcttatttt ggtggctatt cattttactt ttaaaagtga ttggtggatt       240
ttagactaat tatggggggaa tttgccacca aaataaaaaa tatgtaaagn gtagtgatta      300
cagagtggtt aaaatgtggg ttagtactta tttattccat taattgatta tttgactgtt       360
tataaagaaa gttgctttat ttctttaaac atcttcaaaa gatgatcctt tcttgtcaca       420
ttatagccaa aagaagcaga gaacttcact gtctgcattt ggttcctggt tgg             473

        <210> 718
        <211> 207
        <212> DNA
        <213> Homo sapien

        <400> 718
ggtaaatgct agtataatat ttaccatctc acttctagga atactagtat atcgctcaca        60
cctcatatcc tccctactat gcctagaagg aataatacta tcactgttca ttatagctac       120
tctcataacc ctcaacaccc actccctctt agccaatatt gtgcctattg ccatactagt       180
ctttgccgcc tgcgaagcag cggtagg                                          207

        <210> 719
        <211> 255
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(255)
        <223> n = A,T,C or G

        <400> 719
cctatattac ggatcatttc tctactcaga aacctgaaac atcggcatta tcctcctgct        60
tgcaactata gcaacagcct tcataggcta tgtcctcccg tgaggccaaa tatcattctg       120
aggggccaca gtaattacaa acttactatc cgccatccca tacattggga cagacctagt       180
tcaatgaatc tgaggaggct actcagtaga cagncccacc ctcacacgat tctttacctt       240
tcacttcatc ttgcc                                                       255

        <210> 720
        <211> 455
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(455)
        <223> n = A,T,C or G

        <400> 720
ccaatgtcga aacctacaag atttccttaa aatctctaat agaggcatta cttgctttca        60
attgacaaat gatgccctct gactagtaga tttctatgat ccttttttgt cattttatga       120
atatcattga ttttataatt ggtgctattt gaanaaaaaa atgtacattt attcatagat       180
```

agataagtat caggtctgac cccagtggaa aacaaagcca aacaaaactg aaccacaaaa   240
aaaaaggctg gtgttcacca aaaccaaact tgttcattta gataatttga aaaagctcca   300
tagaaaaggc gtgcagtact aagggaacaa tccatgtgat taatgnttnc attatgttca   360
tgtaanaagc cccttatttt tagccataat tttgcatact gaaaatccaa taatcagaaa   420
agtaattttg ccacattatt tatnaaaaat gttcc   455

```
          <210> 721
          <211> 530
          <212> DNA
          <213> Homo sapien

          <220>
          <221> misc_feature
          <222> (1)...(530)
          <223> n = A,T,C or G

          <400> 721
```

ccagtgcttg ctgccgtggt ttagtgattg ggtgttagaa ataaaaactc aggtctattt   60
cttaccagtc agtaacaatt tttagagaat gtacttggta tataatatat ggacttcagg   120
aactttattg gggngggggg ttaattttgc cttaccctgt tcactttcag atgattaggc   180
ttttgcactt tagaatgaga aacttgtgac gttagtgtgt tcttactagc tttaatttgt   240
atgtagcaat gaattgtgaa tcttagtgca gtgggttttt ttaaaaaact caaaaagctg   300
ggaattaagt ggtttcagta ataatgctat accgaggtgc ttgcattgta tttcataatt   360
ttgttacaaa ccaaaattat ttttaatgan aacggtcttg ggttcagagg tgtgatgcca   420
gaatgtattt tcgtactgtt aggcccttgg aacagatacc ggtgctttct tgaaagatga   480
aagaaatgca atgggtgctc ttcatgcaag gttgcaaacc taccaagaat   530

```
          <210> 722
          <211> 242
          <212> DNA
          <213> Homo sapien

          <220>
          <221> misc_feature
          <222> (1)...(242)
          <223> n = A,T,C or G

          <400> 722
```

ccaagggtca tgatggcagg agtaatcana ggtgntcttg tgttgtgata agggnggaga   60
ggttaaagga gccacttatt agtaatgttg atagtagaat gatggctagg gtgacttcat   120
atgagattgt ttgggctact gctcgcagtg cgccgatcag ggcgtagttt gagtttgatg   180
ctcatcctga tnagaggatt gagtaaacgg ctaggctaga ggtggctaga ataaatagga   240
gg   242

```
          <210> 723
          <211> 472
          <212> DNA
          <213> Homo sapien

          <220>
          <221> misc_feature
          <222> (1)...(472)
          <223> n = A,T,C or G
```

<400> 723
```
cctactatgg gtgttaaatt ttttactctc tctacaaggt ttttttcctag tgtccaaaga      60
gccgttcctc tttggactaa cagttaaatt tacaagggga tttagagggt tctgtgggca     120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt     180
ttgtcgcctc nacctataaa tcttcccact attttgctac atagacgggt gtgctctttt     240
agctgttctt aggtagctcg tctggnttcg ggggtcttag ctttggctct ccttgcaaag     300
ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct     360
tggttataat ttttcatctt tcccttgcgg tactatatct attgcgccag gtttcaattt     420
ctatcgccta tactttattt gggtaaatgg tttggctaan gttgtctggt ag            472
```

<210> 724
<211> 292
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(292)
<223> n = A,T,C or G

<400> 724
```
nccaccactg cagccctaca tacagntgaa aaaaaattcc attctgttaa catttgtttt      60
ataagttttc acncaataca caaaaaaccc ctctgcactt cttgtaaaga acaaaaaaga     120
tacacaacag ttaagcgtaa agatcacagg caatagcatt caaacatgga tgtgggnaga     180
gaaaggagta cctggcatga gtacctgctt agttngactg aatccttgat ttttaatttg     240
gcttttcatg ggccgntcac aacaccaacg ctgngngagg tatggtagtc ag            292
```

<210> 725
<211> 122
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(122)
<223> n = A,T,C or G

<400> 725
```
atagaaaggg catacccaaa atgttactga aaatntaata caaattccaa gattcaccaa      60
ngaagtaaca aaaacctggc ctgcangngg ncccctatcc cgtggctcca tggntgatgt     120
gg                                                                    122
```

<210> 726
<211> 477
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(477)
<223> n = A,T,C or G

<400> 726
```
ctgaaccctc gtggagccat tcatacaggt ccctaattaa ggaacaagtg attatgctac      60
```

```
ctttgcacgg ttagggtacc gcggccgtta aacatgtgtc actgggcagg cggtgcctct    120
aatactggtg atgctagagg tgatgttttt ggtaaacagg cggggtaaga tttgccgagt    180
tcctttttact ttttttaacc tttccttatg agcatgcctg tgttgggttg acagtgaggg   240
taataatgac ttgttggtga ttgtanatat tgggctgtta attgtcagtt cagtgtttta    300
atctgacgca ggcttatgcg gaggagaatg ttttcatgtt acttatacta acattagttc    360
ttctataggg tgatagattg gtccaattgg gtgtgaggag ttcagttata tgtttgggat    420
tttttaggta gtgggtgttg agcttgaacg ctttcttaat tggcggctgc ttttagg       477
```

```
        <210> 727
        <211> 416
        <212> DNA
        <213> Homo sapien

        <400> 727
cctgtctttg aatggatgaa ataggttaat aaaaaacatc actgtttaaa aactagaaca    60
ctgaaaaatt ctaggaaagc ttattttccc ttatattttt atggtacttt caacacttaa    120
taacactatt tcaattaagt tttctcctag agtttatagt atatcagtac attcttttct    180
gtggatgcaa taatatagaa tcttattcca aatcttactg gcaggttctc ttaaattctt    240
caacggctgc catagtgatt aaccaaaatt agttatgatt tctgcctatc tgtgtgagaa    300
cttacagggg aaattgttct aaacctgagg aacatgaagt aactgtactg cacactccaa    360
atgatgacag tcattttata tcaccttcaa ttacccaaca gcttttaata gtctgg        416
```

```
        <210> 728
        <211> 416
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(416)
        <223> n = A,T,C or G

        <400> 728
cctgtctttg aatggatgaa ataggttaat aaaaaacatc actgtttaaa aactagaaca    60
ctgaaaaatt ctaggaaagc ttattttccc ttatattttt atggtacttt caacacttaa    120
taacactatt tcaattaagt tttctcctag agtttatagt atatcagtac attcttttct    180
gtggatgcaa taatatagaa tcttattcca aatcttactg gcaggttctc ttaaattctt    240
caacggctgc catagtgatt aaccaaaatt agttatgatt tctgcctatc tgtgtgagaa    300
cttacagggg aaattgttct aaacctgagg aacatgaagt aactgtactg cacactccaa    360
atgatgacag tcattttata tcaccttcaa ttacccaaca gcttttaata ntctgg        416
```

```
        <210> 729
        <211> 564
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(564)
        <223> n = A,T,C or G

        <400> 729
ctgtgagtag aggagtcttc ccgagagtag cagttgttga tccaaatgat tgaagccttc    60
aggtaaggga ataactgctg caggaattct ttcttgaaga atttaagctg tttggtaaga    120
```

```
attctgtaac tacatacctt tgaaacacta ttcacattca aataaacgct tgttttctag      180
ccaggcacag gctcaattag tttttcaaac tctagccaag gcagtatttc atttgggaaa      240
tcatgcaaca gaactgctca attcttaact tctcctgctg ttaacattta cacttagact      300
gccagcaaca gttaacttaa attttggtct caagggaaca aaaaaaaatt gcattcagaa      360
tttaatatag tattttaaaa ctaattttag cctgtaagnc attatgagca atagtaactt      420
ttatacctcc tcatcttgnc tgataatata ttctatatgc tgncaatctg attatatagt      480
ctatatgcta gaagttgctg attttcattc tgccaccaaa aaaaactgtc cttttttttt      540
tatgggggaa aaagggaatt taaa                                             564
```

    <210> 730
    <211> 310
    <212> DNA
    <213> Homo sapien

    <400> 730
```
ccatttttat ttcttcttca gagaagtgtt tatttaggtc tgttgcccat tttacaatta       60
ggccatatgt tttcttgctg ttgagttgta tgtgtgtttg tataaatttt gcatattaac      120
cccttatcac acgtatgttt tttaaaataa attttgctta ttaatctttt atcagatgta      180
tggtttccaa atatattctt ccgatccatg gattctcttt tttgttatga ttgtttcttt      240
gctcttcgga agctttttgt tttgtttttgt tatttgtttt actttgatat agtcccattt      300
attgttttg                                                             310
```

    <210> 731
    <211> 467
    <212> DNA
    <213> Homo sapien

    <220>
    <221> misc_feature
    <222> (1)...(467)
    <223> n = A,T,C or G

    <400> 731
```
ngacaacctt agccaaacca tttacccaaa taaagtatag gcgatagaaa ttgaaacctg       60
gcgcaataga tatagtaccg caagggaaag atgaaaaatt ataaccaagc ataataaagc      120
aaggactaac ccctatacct tctgcataat gaattaacta gaaataactt tgcaaggaga      180
gccaaagcta agacccccga aaccagacga gctacctaag aacagctaaa agagcacacc      240
cgtctatgta gcaaaatagn gggaagattt ataggnagag gcgacaaacc taccgagcct      300
ggtgatagct ggttgtccaa gatagaatct tagntcaact ttaaatttgc ccacagaacc      360
ctctaaatcc ccttgtaaat ttaactgnta gnccaaagag gaacagntct ttggacacta      420
ggaaaaaacc ttgtagagag agtaaaaaat ttaacaccca tagtagg                   467
```

    <210> 732
    <211> 492
    <212> DNA
    <213> Homo sapien

    <220>
    <221> misc_feature
    <222> (1)...(492)
    <223> n = A,T,C or G

    <400> 732
```
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga       60
```

```
gctgttcctc tttggactaa cagctaaatt tacaagggga tttagagggt tctgtgggca    120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt    180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt    240
agctgttctt aggtagctcg tctggnttcg ggggtcttag ctttggctct ccttgcaaag    300
ttatttctag ttaattcatt atgcagaagg tataggggtt agnccttgct atattatgct    360
tggntataat ttttcatctt tcccttgcgg tactatatct attgcgccag gtttcaattt    420
ctatcgccta tactttattt gggtaaatgg tttggctaag gttgtctggt agtgaggcgg    480
agngggtttg gg                                                         492
```

```
<210> 733
<211> 562
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(562)
<223> n = A,T,C or G

<400> 733
ntgaaatggc aatagcattc actgtcgtat tttgcagtgc tcaggaagtg ggacgttaac     60
tttgaaggtg cttgtttgta ttagctctgc taggtttacc tctacaacgt agatttcagc    120
agctatgctg actgacacta cattctagtt cttaagattt tttttccana tccccccttc    180
cccagctaga catacgtagc atactttcat cttattcagt ctttctgtaa cctgctgctg    240
cttttagtcc tcctcacctc agatcggaat caatggagtg ggcccagagg atacatttta    300
attccagtaa tggtaggtag atttgtcctg ctttctaaaa catctcctca tttcatattt    360
ccactccata ttgattccat aagggaaaat taatgggtgn ttcctccttt agggaggcaa    420
tgcaaagagn gtggacatct tctaatcttg aggaacagtn gttgatttcc cttgaaggag    480
cttacatatt gactgtnttt cacaataacc tgnttgcccc agntcaatcc ctcattttaa    540
tacttaatgt tggtnctggg ct                                             562
```

```
<210> 734
<211> 265
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(265)
<223> n = A,T,C or G

<400> 734
nggtccagaa caagagaaat aactgcagaa aacacatatg gttggaaacc atgcgcttgt     60
gacttttct gtagcctatg ggagtggaca gagtgggtaa cccaagatgt ttttaagact    120
gactggacta agaatggcgt acttatagcc aactacttcc cccctaatgt gactgaaggg    180
attcataatg atcacaatta gcattacggt taagtatttt agggttgacg tctaagctca    240
cacttgaaag gtatttatct aatgg                                          265
```

```
<210> 735
<211> 216
<212> DNA
<213> Homo sapien

<400> 735
```

```
atttaatacg tgctcactgc tcggcacgcg ctgaagctac agttaacaat cagtgagcac      60
atattaaatg ataaaataat gctgatggta aacattcata acagcagagt aagattttgg     120
cagttttgtg tctcggtaac ataactgtaa ccttagatga acacctatcc cttcatgatc     180
tgactttaga ggcaaggagt ttgtaacatc taatgg                               216
```

```
<210> 736
<211> 285
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(285)
<223> n = A,T,C or G

<400> 736
```
```
ctgaaaggca acntggagac tagttagtct agtcccctca tattataaat tggtatgctg      60
aggccaggca gtaaattgct atggagctct ccaatttaag gccagtttga ctccaagggt     120
agggcttcta gtaaaatttt gtgattaaat tggaaactct aatttatttt tctatgngtt     180
tttggtacct aatcctcata agcaagccat atttcaaggc tgatcaatga aaacaccaaa     240
taccaaagct cctttccct tccaaattta ctgacccttt gtcag                      285
```

```
<210> 737
<211> 509
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(509)
<223> n = A,T,C or G

<400> 737
```
```
agangaagaa gangaagatt aagggaaaag tacatcggtc aagaagagct caacaaaaca      60
aagcccatct ggaccagaaa tcccgacgat attactaatg aggagtacgg agaattctat     120
aagagcttga ccaatgactg ggaagatcac ttggcagtga agcattttc agttgaagga     180
cagttggaat tcagagccct tctatttgtc ccacgacgtg ctccttttga tctgtttgaa     240
aacagaaaga aaaagaacaa catcaaattg tatgtacgca gagtttttcat catggataac    300
tgngaggagc taatccctga atatctgaac ttcattagag gggtggnaga ctcggaggat     360
ctccctctaa acatatcccg tgagatgttg caacaaagca aaattttgaa agttatcang    420
aagaatttgg gtcaaaaaat gcttanaact ctttactgaa ctggcggaag atnaagagaa     480
ctncaagana ttctatgagc agntctctt                                       509
```

```
<210> 738
<211> 97
<212> DNA
<213> Homo sapien

<400> 738
```
```
cagtgaattg aatacgactc ctatagggcg aattgggccc tctagatgca tgctcgagcg      60
gccgccagtg tgatggatat ctgcagaatt cgcccctt                             97
```

```
<210> 739
<211> 209
```

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(209)
<223> n = A,T,C or G

<400> 739
ccgncagtgt gatggatatc tgcagaattc gcccttagcg gcccgcccgg gcagggtcct   60
tatatatagt agcttagttt gaaaaaatgt gaaggacttt cgtaacggaa gtaattcaag   120
atcaagagta attaccaact taatgttttt gcattggact ttgagttaag attatttttt   180
aaatcctgag gactagcatt aattgacgg   209

<210> 740
<211> 164
<212> DNA
<213> Homo sapien

<400> 740
ccaagctaat gggtgacact gtgaatgcaa ctctaatgca gcctggcgta aatggtccta   60
tgggcactaa ctttcaagtt aacacaaaca gaggaggtgg tgtgtgggaa tctggtgcag   120
caaactccca gagtacatca tggggaagtg gaaatggcgc aaat   164

<210> 741
<211> 514
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(514)
<223> n = A,T,C or G

<400> 741
ccagtcagaa ttgagatgtg ctgtgagtgc aaaatacact caaatctaag acttagtatg   60
gaagaaaaag aagataaggt gnttcattaa taatctttta tattgattac atgttgaaat   120
gatatttta atatactggg ttacataaac tgttattaag attaattttg cttgtttctt   180
ttttaatatg gctactagaa aattaaaaat tatgttgtgg ttcacattat atttctgttg   240
aacaatgtgg acatagataa tctacagtca ttacattagc cttagaattt agcatcatac   300
ttttaagcac tctggggtac taacttgaac tcccagaaac ccataagcac actctgcata   360
taaattattg caaaattcat tcttatctct ctgaaagata tgcattttaa gggtaaaaag   420
aattcacaaa atattgantc cttaacaaat gtcaattagt atatggagag agctaaagga   480
cttcntgtag actggtncat tggggaaaaa caga   514

<210> 742
<211> 439
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(439)
<223> n = A,T,C or G

<400> 742
```
gcaggtccta tgcatagtta ataagggnta taatctactc aacatggaaa atgggagcct    60
atttgcaaac acacgagtaa ttaaagtacc aattctctct tagtttcttt ttttatagtt   120
ggnttatttt gcaattataa atgntaaaca tccctagaga tgaaagttaa aatggctgat   180
cacagatcag tagcaaaata caaattgaca attcaaaatt ataaataaaa ctctgttgag   240
gatgtttaac tttgagcctc caaatttaag agctaagctt ggaagaaaca aatttatagg   300
ttatatttcc ctcttaaatt aaaaaacaaa cttcctctgg cagtagnttg tgaattcctt   360
tcattgnaat gataccatga ttacaggatc aaaaatgctt aacttacttg ccattctgct   420
cacatcatca cagttgttt                                                439
```

<210> 743
<211> 275
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(275)
<223> n = A,T,C or G

<400> 743
```
cangacgcta cttcccctat catagaagag cttatcacct ttcatgatca cgccctcata    60
gtcattttcc ttatctgctc cctagtcctg tatgcccttt tcctaacact cacaacaaaa   120
ctaactaata ctaacatctc agacgctcag gaaatagaaa ccgtctgaac tatcctgccc   180
gccatcatcc tagtcctcat cgccctccca tccctacgca tcctttacat aacagacgag   240
gtcaacgatc cctcccttac catcaaatca attgg                              275
```

<210> 744
<211> 295
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(295)
<223> n = A,T,C or G

<400> 744
```
ctgtnctttt aaaaaatctg gatgtttttt atttagtgat tgttcgacaa ttagctgctt    60
caaaacataa tgtgcattgc ttatgaatgc cttcatatac taatacagat actctgataa   120
tattcacactc taataaggat aatgctgaat tttgaaagga cacaaaacat ctaatgccaa   180
tatatacatg attagccaac atctttgcta tcaagaccac tcgtttttaa ataaagatgc   240
aagtgtcagt tgtagattat tgggatgaag ctaaatcccc agaatgcagc agcag        295
```

<210> 745
<211> 477
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(477)
<223> n = A,T,C or G

```
        <400> 745
cgcgttactg tacatattgc tagcaggaga caactggaaa tactaaacaa atactggaat        60
tcacattaca gacagacgaa accaacatgg atgccacaca taacttcctt tgtagtttca       120
cagagagcct atttgtggtt gctcaggtgg ggtcatacat tgcttgcaga aatggcctga       180
tcatagctct atgaaacaat gaattcggaa tgaaatctta ccatgacacc tctctgtagg       240
aaagaaatgt tgcttcacgt gtgctaagtt gagataataa tatttcacat atttatatac       300
agagaatcac tctcaaattt aacccaagat aagcaatagg atttgggggt gacttgtaca       360
catttctaac aacacttttc ttttttctag aggtcactct caaacactga tatatcacta       420
tagtttgagt gtanggattc agtaatcaaa ggttgttatt gcaaagagc caggcag           477


        <210> 746
        <211> 524
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(524)
        <223> n = A,T,C or G


        <400> 746
ctgtgaaatt gggttgggag agccaaaata ctttacaact tcagaccgga gaaaaggcca        60
gaggtgtgaa gttagactct atgatgaaac agagtcgtct tttgcgatga catgttggga       120
taatgaatcc attctacttg cacagagctg gatgccacga gaaacagtaa tatttgcctc       180
agatgtaaga ataaatttg acaaatttcg gaactgcatg acagcaactg taatctcaaa        240
aaccattatt acaactaatc cagatatacc agaagctaac attctgctga attttatacg        300
agaaaataaa gaaacaaatg ttctggatga tgaaattgac agttatttca agaatccat         360
aaatttaagt acaatagttg atgtctacac agntgaacaa ttaaagggaa aagctttgaa        420
gaatgaagga aaagctgatc cttcctatgg catcctttat gcctacattt ccacactcaa        480
cattgatgat gaaactcaaa agtagttcga aatagatgtt ccag                        524


        <210> 747
        <211> 456
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(456)
        <223> n = A,T,C or G


        <400> 747
cctcagttct tgattgtggt tgacggggcg tcaccatgaa ggagcccatt tagtataaag        60
cttccaacct tttctcttaa tcgtttcttt aatcttttaa accatcttca agtgcatagg       120
ggagtttccg atgccagagg atgaaagcaa gtgctttctc caccctctcc tcccagagtg       180
aaaacaaatc cttttgctga tacttgtttc aaaagcatcc attgtaaagc ttctcagtga       240
cacaaaatac tgagaggtaa cttttttatca atcaaaccac ataccccaat ttaacacctt      300
tcagtgctct gaattcaact gacagactaa agggtgtttc ctgtaacagt ctgaaatatt       360
aagtgttttt tttgtttttgt ttttaaatct tatttcagaa aacttcctct nggggtagga     420
aagtacacat gaagcagcaa agtaacgaag aaaaac                                 456


        <210> 748
        <211> 474
```

```
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(474)
<223> n = A,T,C or G

<400> 748
ccanaccagg gaaccaaatg cagacagnga agttctctgc ttcttttggc tataatgnga      60
caagaaaggg atcatctttt gaagatgttt aaagaaataa agcaactttc tttataaaca     120
gtcaaataat caattaatgg aataaataag tactaaccca cattttaacc actctgtaat     180
cactacactt tacatatttt ttatttnggn ggcaaantcc cccataatta gtctaaaatc     240
caccaatcac ttttaaaagt aaaatgaata gccaccaaaa taagaaaatc ttctgttcac     300
tctttggcta aaaaggaaaa caaataaaac aaaacaaaaa gaaacagaag acaactgtaa     360
cactggtgat aaaagaaact ttttttttac aagtaaaata aagttatcaa tttaaatctt     420
ggncacttta taaaaacaag aggtaatgtt gtaataaaac agcagtagcc tcag          474
```

```
<210> 749
<211> 355
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(355)
<223> n = A,T,C or G

<400> 749
cctgggtnna gnggctgact gnaacctcca cttcctgttc tcaggcaatc ctcctgcctc      60
agcctcctta gtagctggga ctacaggagt gtgcaaccat gcccaactaa ttttttgtatt    120
tttaatagag acagggtttc accatgttga tcaggttggt ctccaactcc tgacctcagg     180
tgatccacct gtcccagcct cccaaagtgc tgggattaca ggcatgagcc accacgcccg     240
gnccaggata aagtaaaaat ttgtaagcac acaaggccct ttgcaacctg gctcctggtt     300
actactttaa ncctcctgcc ctcccaaatg tnctcactgt ttttctanac atacc         355
```

```
<210> 750
<211> 493
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(493)
<223> n = A,T,C or G

<400> 750
ccatgctggt ctcgaactcc tgaactcagg tgatccaccc gcctcagtct cccaatagat      60
tacatatatt attaatgaat tgcttccttt aacaccctat tcattgaatt ttccagtaaa     120
ccacaattac taattactcc tgaaatcaga aaagaggtta aaaagatttt ataacagtat     180
cctatgaaat ctactacttt caagtaatag tagttgaatt accaaaaccc gtcactcaag     240
ccaatgacta caattaagat atgagtaaca tttcctagat aaataaagtc aattaattat     300
atttgcatct gggaaataga gaaagtacat ataagccatg attttgaagn caaaagagag     360
agantatttg ccaaggaggg gtgagttata gtatgtaatt ataacataca gaagcttttt    420
```

```
gtatgctggt aactaatttt aatttcctac attnttatgg agatttctgc tattcttgtc      480
ctattttcca cct                                                         493
```

```
        <210> 751
        <211> 364
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(364)
        <223> n = A,T,C or G

        <400> 751
cgaggtctgg naaggtcacc aagtctgccc aganagctca gaaggctaaa tgaatattat       60
ccctaatacc tgccacccca ctcttaatca gtggtggaag aacggtctca gaactgtttg      120
tttcaattgg ccatttaagt ttagtagtaa aagactggtt aatgataaca atgcatcgta      180
aaaccttcag aaggaaagga gaatgttttg nggaccactt tggttttctt ttttgcgtgt      240
ggcagtttta agttattagt ttttaaaatc agtacttttt aatggaaaca acttgaccaa      300
aaatttgtca cagaattttg agacccatta aaaaagttaa atgagataaa aaaaaaaan      360
cntg                                                                   364
```

```
        <210> 752
        <211> 498
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(498)
        <223> n = A,T,C or G

        <400> 752
ctggattatg ggttggnatt ggtcatatgt tagactccat acaggcatag ctatgatgca       60
gtgaatccct tagaagttac aattctcaaa ttacatactt cctcagatgt aacattagaa      120
ctcaatattt ctaacaataa cataccagaa aaggctggac tggcactcat ctgctgacta      180
acttgtagcc tcagtaatat gacatacttg cctttaacaa attatctcaa attaactaac      240
agaccttcag aaaatggaga ttcttttttga tggggacata atcaaattta agtctgagaa      300
atatgcttaa cagttggaac tcaaattaaa tgtactgatt ttaaagttta gacattaaca      360
agtgatanat tagcctcaaa aaaagacaat ttggnaaggn ttaggtcttt taatttggtg      420
cttgntcaca acttgactgg tgcttctttc cttgctgctt cacatcaagc atggggccaa      480
ttctattttc agtaaatg                                                    498
```

```
        <210> 753
        <211> 467
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(467)
        <223> n = A,T,C or G

        <400> 753
```

```
nacaacctta gccanaacca tttacccaaa taaagggata ggcgatagaa attgaaacct      60
ggcgcaatag atatagnacc gcaagggaaa gatgaaaaat tataaccaag cataatatag     120
caaggactaa cccctatacc ttctgcataa tgaattaact agaaataact ttgcaaggag     180
agccaaagct aagacccccg aaaccagacg agctatctaa gaacagctaa aagagcacac     240
ccgtctatgt agcaaaatag tgggaagatt tataggtaga ggcgacaaac ctaccgagcc     300
tggtgatagc tggntgncca agatagaatc ttagntcaac tttaaatttg cccacagaac     360
cctctaaatc cccttgtaaa tttaactgtt agtccaaaga ggaacagctc ttggacacna     420
ggaaaaaacc ttgcagagag agtaaaaaat ttaacaccca tagtagg                  467
```

```
        <210> 754
        <211> 196
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(196)
        <223> n = A,T,C or G


        <400> 754
gtcatgttca agtgttntaa tctgacgcag gcttatgcgg aggagaatgt tttcatgtta      60
cttatactaa cattagttct tctatagggt gatagattgg tccaattggg tgtgaggagt     120
tcagttatat gtttgggatt ttttaggcag tgggtgttga gcttgaacgc tttcttaatt     180
ggtggctgct tttagg                                                     196
```

```
        <210> 755
        <211> 381
        <212> DNA
        <213> Homo sapien


        <400> 755
ctggaaagga ttctgtacat ataagacatc aaatattgag ggatactgga acttttaaat      60
taatgggcaa agaaagtcaa caaaggaagt tcatatgaaa tcaaactagt aatatgatta     120
caaaaaaaaa gtttaaaatt tttcttggcc ccagtcttat catttctgag ccaaatacaa     180
ttctatcgaa atcacctgaa actgaaatca ccattctagg ctggttttcc cataaagatg     240
gactgctcca aaaagaggaa tcaagaaaga atttggctca cagtgaatta ttcactttgt     300
cttagttaac taaaaataaa atctgactgt taactacaga aatcatttca aattctgtgg     360
tgataataaa gtaatgaccg c                                               381
```

```
        <210> 756
        <211> 341
        <212> DNA
        <213> Homo sapien


        <220>
        <221> misc_feature
        <222> (1)...(341)
        <223> n = A,T,C or G


        <400> 756
ggntataaac ctattattta ttgcagaact aataaaaaat ccaaagcctt gtatttgtac      60
atctttatta tctctaaagc actttcctca acctaatttc agtttttaca attggtactc     120
aagaaaatag agacagaaat catttgattt tgcccagaaa ccatctgctt atatttataa     180
ggccacctaa tttgaaatca catatagacc aggcgcggtg ctcacgcct gtaattccaa      240
```

```
cactttggaa ggccaaggca ggtggatcac aaggtcaaga gattgagacc atcttggcca    300
acatggcgaa accccgtctc taccaaaaat acaaaaatca g                         341
```

<210> 757
<211> 479
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(479)
<223> n = A,T,C or G

<400> 757
```
cgcnttactg tacatattgc tagcagggag acaactggaa atactaaaca aatactggaa     60
ttcacattac agacagacga aaccaacatg gatgccacac ataacttcct ttgtagtttc    120
acagagagcc tatttgtggt tgctcaggtg gggtcataca ttgcttgcag aaatggcctg    180
atcatagctc tatgaaacaa tgaattcgga atgaaatctt accatgacac ctctctgtag    240
gaaagaaatg ttgcttcacg tgtgctaagt tgagataata atatttcaca tatttatata    300
cagagaatca ctctcaaatt taacccaaga taagcaatag gatttggggg tgacttgtnc    360
acatttctaa caacactttt cttttttcta gaggtcactc tcaaacactg atatatcact    420
atagnttgag ngtagggatt caagtaatca aaggttgtta ttgcaaaaga gccaggcag     479
```

<210> 758
<211> 267
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(267)
<223> n = A,T,C or G

<400> 758
```
ccatgnctag gtttatagat agttgggtgg gttggtgtaa atgagtgagg caggagtccg     60
aggaggttag ttgtggcaat aaaaatgatt aaggatacta gtataagaga tcaggttcgt    120
cctttagtgt tgtgtatggc tatcatttgt tttgaggtta gtttgactag tcattgttgg    180
gtggtaatta gtcggttgtt gatgagatat ttggaggtgg ggatcaatag aggggaaat    240
agaatgatca gtactgcggc gggtagg                                        267
```

<210> 759
<211> 449
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(449)
<223> n = A,T,C or G

<400> 759
```
cgaggtcttg aaatcagcaa cacacttaca aatgagaaaa tgaaaataga agagtatata     60
aagaaaggga aagaggatta tgaagagagt catcagagag ctgtggctgc agaggtatcc    120
gtacttgaaa actggaagga gagtgaagtg tataagctac agatcatgga gtcacaagca    180
```

```
gaagcctttc tgaagaagct ggggctgatt agccgtgatc ctgcagcata tcccgacatg      240
gagtctgata tacgttcatg ggaattgttt ctttctaatg ttacaaaaga aattgagaaa      300
gcaaagtctc agtttgaaga acaaattaag gcaattaaaa atggttcccg gctcagtgaa      360
ctttctaaag ngcagatttc tgagctttca tttcctgcct gtaacacggt tcatcccgag      420
ttactccctg agtcttcagg ccacgatgg                                         449
```

```
        <210> 760
        <211> 414
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(414)
        <223> n = A,T,C or G

        <400> 760
ccatnaactg gaagcagctc actaaacaaa cagnggcata cccatagaac tgcatacttc       60
tcagcagtat gaaagaatga gctacttata taagcatcat tgataaacct caaaaaaaaa      120
atgccacatg aagaanccca aggggggagaa acataaaaac tttatatgnc agncatataa     180
aattctagaa aatgcaaact aatccatcnt aaaggaaagt aaatcancag ttgtctggag      240
gaccanagag agcaggagga gagagattnt taangggggtt aaagtaaatt ngggagtgcc     300
cttccatttt taaatnctat gaaaatgaaa gtaaaggccc ntgcatgttg taaactaata     360
gtaacaaaca gattgggttg gagtggggtg ttgtctgggg acatcattac aaan           414
```

```
        <210> 761
        <211> 428
        <212> DNA
        <213> Homo sapien

        <400> 761
gagcctcact aaaataacag atttcagtat agccaagttc atcagaaaga ctcaaatgga       60
atgatttaca agatagaaca ctttaaacca ggtcagtcct atctttttgt agctgaaggc      120
tatcagtcat aacacaattt cgcgtacacc tctgctcatt atggaattac acttaaaacg      180
aatctcaaga gggtgaccat tgttgtttca gataccatcc ctaaggagag tggttaacag      240
gaagattgcc agtgttactg atggaaagaa gtgtttgttt gttttttttc ttgtcaaaga      300
cttacaccat agtttttaaat taaactgtca ggcattttct cagacaggtt ttccttttca    360
atgcagtaat gaagaactaa gataaaaatc atgacttttg actgccactc aacattatta     420
catgcacc                                                              428
```

```
        <210> 762
        <211> 574
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(574)
        <223> n = A,T,C or G

        <400> 762
caggtctgaa ctgataagta ttaagagacg tttgttgcta gttaagngtt ccagttgaga       60
gttcgaagtg aaaacctggg ctctttacca gtgttgagtg agaagattta tttctctttc      120
ctctgaattt accacatgta acatcacaga gacatgtaga gttcctttag gatttgcgat      180
```

```
ttgaaccagn ccagtctgat tttcaggtga attctgtgaa gagcttgatg ggggaagtct      240
gaagacagaa ggaattaggg aaaagggtga tacttacaga gtaaaggaaa taaatgaaaa      300
gataatggta tttttggtag ccacagggaa atagcaggag gggactggag atcacacaca      360
cgcacacgca cacacacaaa cacacacaca cgctaaaact caaactaaaa acctcccaaa      420
ggagctgctt tgtttgcaga cttcaattng aagtagatac taagggcaag aatagaccag      480
ttaaaattca cctgaaaatc tcttcccann cttcaaatgt gctaaaatat cactgtcagc      540
ttagcatctc tncatgtatg tatatataga tgta                                 574
```

```
        <210> 763
        <211> 465
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(465)
        <223> n = A,T,C or G

        <400> 763
cctactatgg gtgttaaaat tttttactct ctctacaagg nttttttccta gtgtccaaag      60
agctgttcct ctttggacta acagttaaat ttacaagggg atttagaggg ttctgngggc      120
aaatttaaag ttgaactaag attctatctt ggacaaccag ctatcaccag gctcggtagg      180
tttgtcgcct ctacctataa atcttcccac tattttgcta catagacggg tgtgctcttt      240
tagctgttct taggtagctc gtctggtttc gggggtctta gctttggctc tccttgcaaa      300
gttatttcta gttaattcat tatgcagaag gtataggggt tagtccttgc tatattatgc      360
ttggatataa tttttcatct ttcccttgcg gtactatatc tattgcgcca ngtttcaatt      420
tctatcgcct atactttatt tgggtaaatg gtttggctaa ggttg                     465
```

```
        <210> 764
        <211> 151
        <212> DNA
        <213> Homo sapien

        <400> 764
ctgtcaatta atgctagtcc tcaggattta aaaaataatc ttaactcaaa gtccaatgca      60
aaaacattaa gttggtaatt actcttgatc ttgaattact tccgttacga aagtccttca      120
cattttttcaa actaagctac tatatttaag g                                    151
```

```
        <210> 765
        <211> 251
        <212> DNA
        <213> Homo sapien

        <400> 765
gaagagctta tcacctttca tgatcacgcc ctcatagtca ttttccttat ctgcttccta      60
gtcctgtatg cccttttcct aacactcaca acaaaactaa ctaatactaa catctcagac      120
gctcaggaaa tagtaaccgt ctgaactatc ctgcccgcca tcatcctagt cctcatcgcc      180
ctcccatccc tacgcatcct ttacataaca gacgaggtca acgatccctc ccttaccatc      240
aaatcaattg g                                                           251
```

```
        <210> 766
        <211> 375
        <212> DNA
        <213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(375)
<223> n = A,T,C or G

<400> 766
cgaggtctgn cctcctggtt cttcatccat tattaacaga agagcatact ggtttcggtc      60
cataaaatct ttgggaaggg acaactgtaa aggaagttca tagtcgtcaa tatgaaggat     120
tttaatttct ggctttccta tcttcttctt caggatagct ccttcagca tagaattgtt     180
ttccaatata aaatattttg ctgggttgtc cgtactatgt aggctgacca ctgggaccct     240
tggaccttca cagaataata agaaatgttg attcatggga ctaaaactgg catcaaaata     300
tgtacattgt tctttcatga aattacatga aatgcattgg cgattcaata atccttcagt     360
agaagcactg tacag                                                      375


<210> 767
<211> 485
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(485)
<223> n = A,T,C or G

<400> 767
cgaggtctga accctcgtgg agccattcat acaggtccct aattaaggaa caagtgatta      60
tgctaccttn gcacggttag ggtaccgcgg cccgttaaac atgtgtcact gggcaggcgg     120
tgcctctaat actggtgatg ctagaggtga tgtttttggn aaacaggcgg ggtaagattt     180
gccgagttcc ttttactttt tttaaccttt ccttatgagc atgcctgtgt tgggttgaca     240
gtgagggtaa taatgacttg ttggtgattg tagatattgg ctgttaatt gtcagttcag      300
tgttttaatc tgacgcaggc ttatgcggag gagaatgttt tcatgttact tatactaaca     360
ttagttcttc tatagggtga tagatnggtc caattgggtg tgaggagntc acttatatgt     420
ttgggatttt ttaggtaagn gggtgttgag cttgaacgct ttcttaattg ggggctgctt     480
ttang                                                                 485


<210> 768
<211> 379
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(379)
<223> n = A,T,C or G

<400> 768
ctgatattct attaaagata caaagaggag ctggnaccat ttcttctgaa actattacaa      60
acaactgaaa aggtggaatt tctccctaat tcattttagg aggccagcat tatactgata     120
ccaaaacctg gcagaggtac aataataaaa ggaaacttca agtcagtatc actgatgaac     180
accaatgtga aaatcctcaa taaaatactg gcaaactgaa ttcagcagca catcaaaaag     240
ctaatccacc acaatcaagt cagcttcatc cctgcgatgc aagtctggtt caacatatgc     300
aaatcaataa atacaattca tcagataaac agagctaaag acaaaattca catgattttc     360
tcaatagatg cagaaaagg                                                  379
```

```
<210> 769
<211> 518
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(518)
<223> n = A,T,C or G

<400> 769
cgaggtccat atgatgatca gtctatatag tttaaggcgc agatacacaa attttcaaaa      60
atatgggtag aatatagtca atatgaatgg aatagacaat gctttgaaaa tcactggagg     120
gaggctttat tgtttgtgaa aacatgttgt catcactttt tgctttaagc ccttggtggt     180
gaaataactc aaaccattct tccttatgct gaagatcgag aaccccaagt atcacatcta     240
ccatcccact catcaatgtg attggtcagt ctttgctgag gncctgcata gccagtttta     300
aagttagagt tcttgcatat acatatgaaa aggcatgtta cttgtgcttt caaagagctt     360
tttgcttggt gtaaaaagaa aactcaaatt acagtgtgat gtggaatata atggtggtag     420
tttcatcgag atgatgggaa agaattgata agataaagcn gaaagatgag cagaattttc     480
agattgggtn tggaaagagc acttaagaaa gagggtgg                              518


<210> 770
<211> 378
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(378)
<223> n = A,T,C or G

<400> 770
tatgggtcct gagtgtggaa tataagataa caagacaatt cccttgcttt caagggaaat      60
cacactttat aaaactttga attcttgaaa tgggtttcag aggttccaag gtcaaattca     120
agaataagag ttaagaagaa aaagactatg agaaaggaag tgntgacccc atttgcattt     180
aaatggcagg aatagtctca atctactcat tggggaaaaa tgtatgttgc atattttga      240
gatattgcaa cttgctctct ctctttgcca ccccacccctt tgncatgctc tgttttttggg     300
ctgaattggc aagaaaaatg gctggagggc tggaagaagn tggacccttc ttccttcttc     360
cttcttcctt ctttctcc                                                   378


<210> 771
<211> 207
<212> DNA
<213> Homo sapien

<400> 771
cataaatatt atactagcat ttaccatctc acttctagga atactagtat atcgctcaca      60
cctcatatcc tccctactat gcctagaagg aataatacta tcactgttca ttatagctac     120
tctcataacc ctcaacaccc actccctctt agccaatatt gtgcctattg ccatactagt     180
ctttgccgcc tgcgaagcag cggtagg                                        207


<210> 772
<211> 384
```

```
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(384)
        <223> n = A,T,C or G

        <400> 772
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga      60
gctgttcctc tttggactaa cagttaaatt tacaaggga tttagagggt tctgngggca      120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt      180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt      240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag      300
ttatttctag ttaattcatt atgcagaagg tatagggtt agtccttgct atattatgct      360
tggttataat ttttcatctt tccc                                            384

        <210> 773
        <211> 182
        <212> DNA
        <213> Homo sapien

        <400> 773
cccttttcct aacactcaca acaaaactaa ctaatactaa catctcagac gctcagggaa      60
atagaaaccg tctgaactat cctgcccgcc atcatcctag tcctcatcgc cctcccatcc      120
ctacgcatcc tttacataac agacgaggtc aacgatccct cccttaccat caaatcaatt      180
gg                                                                     182

        <210> 774
        <211> 191
        <212> DNA
        <213> Homo sapien

        <400> 774
ccatggctag gtttatagat agttgggtgg ttgggtgtaa atgagtgagg caggagtccg      60
aggaggttag ttgtggcaat aaaaatgatt aaggatacta gtataagaga tcaggttcgt      120
cctttagtgt tgtgtatggc tatcatttgt tttgaggtta gtttgattag tcattgttgg      180
gtggtaatta g                                                           191

        <210> 775
        <211> 192
        <212> DNA
        <213> Homo sapien

        <220>
        <221> misc_feature
        <222> (1)...(192)
        <223> n = A,T,C or G

        <400> 775
ccatggctaa gntatataga tagctgggtg gctggagtaa atgantgagg nacgagtccg      60
angaggttag ttgaggcaat aaaaatgatn aaggatacta gtataagaga tcangttcgt      120
cctttacatg ttgngtatgg ctatcatttg ttttgaggct agnttgatta gtcattgttg      180
ggtggtaatt aa                                                          192
```

```
<210> 776
<211> 144
<212> DNA
<213> Homo sapien

<400> 776
ctgaccccct agaaccctgg ctctgccatt agctaggacc taagactctg cccacatttt      60
ggtctgttct ctcccattac acataggttt gtctcagcat gcaagagttt ttcctttaaa     120
aaaaaaaaaa aaaaaaaaaa aaaa                                             144


<210> 777
<211> 483
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(483)
<223> n = A,T,C or G

<400> 777
cctactatgg gtgntaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga      60
gctgttcctc tttggactaa cagttaagtt tacaagggga tttagagggt tctgtgggca     120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt     180
ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt     240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag     300
ttatttctag ttaattcatt atgcagaagg tataggggnt aagtccttgc tatattatgc     360
ttggatataa tttttcatct ttcccttgcg gtactatatc tattgcgcca ggtttcaatt     420
tctgccgcct atactttatt tgggtaaatg gtttggctaa ngttgctggt agaaggtgga     480
gtg                                                                    483


<210> 778
<211> 393
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(393)
<223> n = A,T,C or G

<400> 778
ctgcattttt attgcgatct gcagatgaac tgggaaaatc tcattttaca acagaactga      60
gacagacgac caccatattc actgaggtct aaatttgcag tttccactaa tgacattttg     120
atttcccaac agagatactt ctggtcttac tgcacagtct tttaagagaa atacttccat     180
tatgccacat tgtccttgat ccgtaagtga tgtgttaagg tgcttcaaag gaactctgac     240
ctctgaagta cttgagctac tttagtatgt ccagcctatt gctttttgtt ttagngngtc     300
accataaata tcaggggcat aaaaggctat ctattcttaa ttcaaggata aaacagaaga     360
agcttgtggn ataaaacaat agtcaagatc cag                                   393


<210> 779
<211> 277
<212> DNA
```

<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(277)
<223> n = A,T,C or G

<400> 779

```
cctnttgatt tgatgggtaa ggggagggat cgttgacctc gtctgttatg taaaggatgc    60
gtagggatgg gagggcgatg aggactagga tgatggcggg caggatagtt cagacggttt   120
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<210> 780
<211> 328
<212> DNA
<213> Homo sapien

<220>
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<222> (1)...(328)
<223> n = A,T,C or G

<400> 780

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attttgccac actgcaacac cttacagatg tggaagatgt gaaatttgtc atcaattatg   180
actaccctaa ctcctcagag gattatattc atcgaattgg aagaactgct cgcagtacca   240
aaacaggcac agcatacact ttctttacac ctaataacat aaagcagggg agcgacctta   300
tctctgtgct tcgggaagct aancaaac                                     328
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<210> 781
<211> 305
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(305)
<223> n = A,T,C or G

<400> 781

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taccaaagtg tgcaacctac agaccctcag gtactgccct gtgacttctc tgtatgacat   180
cacaaggctg ccaagtgcct gttttttctag aactaggagt tggtgaggtt tggctantgc  240
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gacag                                                             305
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<210> 782
<211> 497
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(497)
<223> n = A,T,C or G

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aacctggatg gttttcaatg gcatggttag tcaaattcat ggttttaaac ttagaagcag     180
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<211> 364
<212> PRT
<213> Homo sapien

<400> 783
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Asn Thr Gln Arg Lys Lys Ser Gln Glu Lys Met Arg Glu Val Thr Asp
        35                  40                  45
Ser Pro Gly Arg Pro Arg Glu Leu Thr Ile Pro Gln Thr Ser Ser His
    50                  55                  60
Gly Ala Asn Arg Phe Val Pro Lys Ser Lys Ala Leu Glu Ala Val Lys
65                  70                  75                  80
Leu Ala Ile Glu Ala Gly Phe His His Ile Asp Ser Ala His Val Tyr
                85                  90                  95
Asn Asn Glu Glu Gln Val Gly Leu Ala Ile Arg Ser Lys Ile Ala Asp
            100                 105                 110
Gly Ser Val Lys Arg Glu Asp Ile Phe Tyr Thr Ser Lys Leu Trp Ser
            115                 120                 125
Asn Ser His Arg Pro Glu Leu Val Arg Pro Ala Leu Glu Arg Ser Leu
        130                 135                 140
Lys Asn Leu Gln Leu Asp Tyr Val Asp Leu Tyr Leu Ile His Phe Pro
145                 150                 155                 160
Val Ser Val Lys Pro Gly Glu Glu Val Ile Pro Lys Asp Glu Asn Gly
                165                 170                 175
Lys Ile Leu Phe Asp Thr Val Asp Leu Cys Ala Thr Trp Glu Ala Met
                180                 185                 190
Glu Lys Cys Lys Asp Ala Gly Leu Ala Lys Ser Ile Gly Val Ser Asn
            195                 200                 205
Phe Asn His Arg Leu Leu Glu Met Ile Leu Asn Lys Pro Gly Leu Lys
        210                 215                 220
Tyr Lys Pro Val Cys Asn Gln Val Glu Cys His Pro Tyr Phe Asn Gln
225                 230                 235                 240
Arg Lys Leu Leu Asp Phe Cys Lys Ser Lys Asp Ile Val Leu Val Ala
```

```
                 245                 250                 255
Tyr Ser Ala Leu Gly Ser His Arg Glu Glu Pro Trp Val Asp Pro Asn
            260                 265                 270
Ser Pro Val Leu Leu Glu Asp Pro Val Leu Cys Ala Leu Ala Lys Lys
            275                 280                 285
His Lys Arg Thr Pro Ala Leu Ile Ala Leu Arg Tyr Gln Leu Gln Arg
            290                 295                 300
Gly Val Val Val Leu Ala Lys Ser Tyr Asn Glu Gln Arg Ile Arg Gln
305                 310                 315                 320
Asn Val Gln Val Phe Glu Phe Gln Leu Thr Ser Glu Glu Met Lys Ala
                325                 330                 335
Ile Asp Gly Leu Asn Arg Asn Val Arg Tyr Leu Thr Leu Asp Ile Phe
            340                 345                 350
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            355                 360
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<211> 6353
<212> DNA
<213> Homo sapien

<400> 784
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```

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<212> DNA
<213> Homo sapien

<400> 785

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atcccactac cgagatatcc gcaccaacgc gcagcccgga ctcggtaatg cgcgcattg    3840
cgccagcgc catctgatcg ttggcaacca gcatcgcagt gggaacgatg ccctcattca    3900
gcatttgcat ggtttgttga aaaccggaca tggcactcca gtcgccttcc cgttccgcta   3960
tcggctgaat ttgattgcga gtgagatatt tatgccagcc agccagacgc agacgcgccg   4020
agacagaact taatgggccc gctaacagcg cgatttgctg gtgacccaat gcgaccagat   4080
gctccacgcc cagtcgcgta ccgtcttcat gggagaaaat aatactgttg atgggtgtct   4140
ggtcagagac atcaagaaat aacgccggaa cattagtgca ggcagcttcc acagcaatgg   4200
catcctggtc atccagcgga tagttaatga tcagcccact gacgcgttgc gcgagaagat   4260
tgtgcaccgc cgctttacag cttcgacgc cgcttcgttc taccatcgac accaccacgc     4320
tggcacccag ttgatcggcg cgagatttaa tcgccgcgac aatttgcgac ggcgcgtgca   4380
gggccagact ggaggtggca acgccaatca gcaacgactg tttgcccgcc agttgttgtg   4440
ccacgcggtt gggaatgtaa ttcagctccg ccatcgccgc ttccactttt tcccgcgttt   4500
tcgcagaaac gtggctggcc tggttcacca cgcgggaaac ggtctgataa gagacaccgg   4560
catactctgc gacatcgtat aacgttactg gtttcacatt caccaccctg aattgactct   4620
cttccgggcg ctatcatgcc ataccgcgaa aggttttgcg ccattcgatg gtgtccggga   4680
tctcgacgct ctcccttatg cgactcctgc attaggaagc agcccagtag taggttgagg   4740
```

```
ccgttgagca ccgccgccgc aaggaatggt gcatgcaagg agatggcgcc caacagtccc    4800
ccggccacgg ggcctgccac catacccacg ccgaaacaag cgctcatgag cccgaagtgg    4860
cgagcccgat cttccccatc ggtgatgtcg gcgatatagg cgccagcaac cgcacctgtg    4920
gcgccggtga tgccggccac gatgcgtccg cgtagagga tcgagatctc gatcccgcga    4980
aattaatacg actcactata ggggaattgt gagcggataa caattcccct ctagaaataa    5040
ttttgtttaa ctttaagaag gagatataca tatgcagcat caccaccatc accactggca    5100
gcccctcttc ttcaagtggc tcttgtcctg ttgccctggg agttctcaaa ttgctgcagc    5160
agcctccacc cagcctgagg atgacatcaa tacacagagg aagaagagtc aggaaaagat    5220
gagagaagtt acagactctc ctgggcgacc ccgagagctt accattcctc agacttcttc    5280
acatggtgct aacagatttg tttgatgaat ctgcagata tccatcacac tggcggccgc    5340
tcgagcacca ccaccaccac cactgagatc cggctgctaa caaagcccga aggaagctg    5400
agttggctgc tgccaccgct gagcaataac tagcataacc ccttggggcc tctaaacggg    5460
tcttgagggg ttttttgctg aaaggaggaa ctatatccgg at                       5502
```

<210> 786
<211> 108
<212> PRT
<213> Homo sapiens

<400> 786

```
Arg Arg Ser Cys Glu Pro Ala Thr Arg Val Pro Glu Val Trp Ile Leu
                5                  10                  15
Ser Pro Leu Leu Arg His Gly Gly His Thr Gln Thr Gln Asn His Thr
               20                  25                  30
Ala Ser Pro Arg Ser Pro Val Met Glu Ser Pro Lys Lys Lys Asn Gln
               35                  40                  45
Gln Leu Lys Val Gly Ile Leu His Leu Gly Ser Arg Gln Lys Lys Ile
           50                  55                  60
Arg Ile Gln Leu Arg Ser Gln Val Leu Gly Arg Glu Met Arg Asp Met
65                  70                  75                  80
Glu Gly Asp Leu Gln Glu Leu His Gln Ser Asn Thr Gly Asp Lys Ser
               85                  90                  95
Gly Phe Gly Phe Arg Arg Gln Gly Glu Asp Asn Thr
              100                 105
```

<210> 787
<211> 152
<212> PRT
<213> Homo sapiens

<400> 787

```
Arg Pro Lys Glu Glu Val Pro Arg Ser Lys Ala Leu Glu Val Thr Lys
                5                  10                  15
Leu Ala Ile Glu Ala Gly Phe Arg His Ile Asp Ser Ala His Leu Tyr
               20                  25                  30
Asn Asn Glu Glu Gln Val Gly Leu Ala Ile Arg Ser Lys Ile Ala Asp
           35                  40                  45
Gly Ser Val Lys Arg Glu Asp Ile Phe Tyr Thr Ser Lys Leu Trp Ser
           50                  55                  60
Thr Phe His Arg Pro Glu Leu Val Arg Pro Ala Leu Glu Asn Ser Leu
65                  70                  75                  80
Lys Lys Ala Gln Leu Asp Tyr Val Asp Leu Tyr Leu Ile His Ser Pro
```

```
                    85                    90                    95
Met Ser Leu Lys Pro Gly Glu Glu Leu Ser Pro Thr Asp Glu Asn Gly
            100                   105                   110
Lys Val Ile Phe Asp Ile Val Asp Leu Cys Thr Thr Trp Glu Ala Met
            115                   120                   125
Glu Lys Cys Lys Asp Ala Gly Leu Ala Lys Ser Ile Gly Val Ser Asn
        130                   135                   140
Phe Asn Pro Gln Ala Ala Gly Asp
145                   150
```

```
<210> 788
<211> 1633
<212> DNA
<213> Homo sapiens

<400> 788
cgtggaggca gctagcgcga ggctggggag cgctgagccg cgcgtcgtgc cctgcgctgc 60
ccagactagc gaacaataca gtcgggatgg ctaaaggtga ccccaagaaa ccaaagggca 120
agacgtccgc ttatgccttc tttgtgcaga catgcagaga agaacataag aagaaaaacc 180
cagaggtccc tgtcaatttt gcggaatttt ccaagaagtg ctctgagagg tggaagacgg 240
tgtccgggaa agagaaatcc aaatttgatg aaatggcaaa ggcagataaa gtgcgctatg 300
atcgggaaat gaaggattat ggaccagcta agggaggcaa gaagaagaag gatcctaatg 360
ctcccaaaag gccaccgtct ggattcttcc tgttctgttc agaattccgc cccaagatca 420
aatccacaaa ccccggcatc tctattggag acgtggcaaa aaagctgggt gagatgtgga 480
ataatttaaa tgacagtgaa aagcagcctt acatcactaa ggcggcaaag ctgaaggaga 540
agtatgagaa ggatgttgct gactataagt cgaaaggaaa gtttgatggt gcaaagggtc 600
ctgctaaagt tgcccggaaa aaggtggaag aggaagatga agaacaggag gaggaagaag 660
aggaggagga ggaggaggag gatgaataaa gaaactgttt atctgtctcc ttgtgaatac 720
ttagagtagg ggagcgccgt aattgacaca tctcttattt gagaagtgtc tgttgccctc 780
attaggttta attacaaaat ttgatcacga tcatattgta gtctctcaaa gtgctctaga 840
aattgtcagt ggtttacatg aagtggccat gggtgtctgg agcaccctga aactgtatca 900
aagttgtaca tatttccaaa cattttttaaa atgaaaaggc actctcgtgt tctcctcact 960
ctgtgcactt tgctgttggt gtgacaaggc atttaaagat gtttctggca ttttcttttt 1020
atttgtaagg tggtggtaac tatggttatt ggctagaaat cctgagtttt caactgtata 1080
tatctatagt ttgtaaaaag aacaaaacaa ccgagacaaa cccttgatgc tccttgctcg 1140
gcgttgaggc tgtggggaag atgcctttttg ggagaggctg tagctcaggg cgtgcactgt 1200
gaggctggac ctgttgactc tgcaggggggc atccatttag cttcaggttg tcttgtttct 1260
gtatatagtg acatagcatt ctgctgccat cttagctgtg acaaagggg ggtcagctgg 1320
catgagaata ttttttttta agtgcggtag ttttttaaact gtttgttttt aaacaaacta 1380
tagaactctt cattgtcagc aaagcaaaga gtcactgcat caatgaaagt tcaagaacct 1440
cctgtactta aacacgattc gcaacgttct gttatttttt ttgtatgttt agaatgctga 1500
aatgttttg aagttaaata aacagtatta catttttaga actcttctct actataacag 1560
tcaatttctg actcacagca gtgaacaaac ccccactccg ttgtatttgg agactggcct 1620
ccctataaat gtg                                                   1633
```

```
<210> 789
<211> 200
<212> PRT
<213> Homo sapien

<400> 789
Met Ala Lys Gly Asp Pro Lys Lys Pro Lys Gly Lys Met Ser Ala Tyr
1               5                   10                  15
Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys Asn Pro
```

```
                    20                      25                      30
Glu Val Pro Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu Arg
            35                      40                      45
Trp Lys Thr Met Ser Gly Lys Glu Lys Ser Lys Phe Asp Glu Met Ala
    50                      55                      60
Lys Ala Asp Lys Val Arg Tyr Asp Arg Glu Met Lys Asp Tyr Gly Pro
65                      70                      75                      80
Ala Lys Gly Gly Lys Lys Lys Lys Asp Pro Asn Ala Pro Lys Arg Pro
                85                      90                      95
Pro Ser Gly Phe Phe Leu Phe Cys Ser Glu Phe Arg Pro Lys Ile Lys
                100                     105                     110
Ser Thr Asn Pro Gly Ile Ser Ile Gly Asp Val Ala Lys Lys Leu Gly
        115                     120                     125
Glu Met Trp Asn Asn Leu Asn Asp Ser Glu Lys Gln Pro Tyr Ile Thr
        130                     135                     140
Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Val Ala Asp Tyr
145                     150                     155                     160
Lys Ser Lys Gly Lys Phe Asp Gly Ala Lys Gly Pro Ala Lys Val Ala
                165                     170                     175
Arg Lys Lys Val Glu Glu Glu Asp Glu Glu Glu Glu Glu Glu Glu Glu
        180                     185                     190
Glu Glu Glu Glu Glu Glu Asp Glu
        195                     200
```

```
<210> 790
<211> 457
<212> DNA
<213> Homo sapiens

<400> 790
ttcgcctgtg ttgggaacgc ggcggagctg tgagccggcg actcgggtcc ctgaggtctg 60
gattctttct ccgctactga gacacggcgg acacacacaa acacagaacc acacagccag 120
tcccaggagc ccagtaatgg agagccccaa aaagaagaac cagcagctga aagtcgggat 180
cctacacctg ggcagcagac agaagaagat caggatacag ctgagatccc agtgcgcgac 240
atggaaggtg atctgcaaga gctgcatcag tcaaacaccg gggataaatc tggatttggg 300
ttccggcgtc aaggtgaaga taatacctaa agaggaacac tgtaaaatgc cagaagcagg 360
tgaagagcaa ccacaagttt aaatgaagac aagctgaaac aacgcaagct ggttttatat 420
tagatatttg acttaaacta tctcaataaa gttttgc                           457
```

```
<210> 791
<211> 126
<212> PRT
<213> Homo sapiens

<400> 791
```

```
Ser Pro Val Leu Gly Thr Arg Arg Ser Cys Glu Pro Ala Thr Arg Val
                5                       10                      15

Pro Glu Val Trp Ile Leu Ser Pro Leu Leu Arg His Gly Gly His Thr
            20                      25                      30

Gln Thr Gln Asn His Thr Ala Ser Pro Arg Ser Pro Val Met Glu Ser
            35                      40                      45
```

```
Pro Lys Lys Lys Asn Gln Gln Leu Lys Val Gly Ile Leu His Leu Gly
    50              55              60

Ser Arg Gln Lys Lys Ile Arg Ile Gln Leu Arg Ser Gln Cys Ala Thr
65              70              75              80

Trp Lys Val Ile Cys Lys Ser Cys Ile Ser Gln Thr Pro Gly Ile Asn
                85              90              95

Leu Asp Leu Gly Ser Gly Val Lys Val Lys Ile Ile Pro Lys Glu Glu
            100             105             110

His Cys Lys Met Pro Glu Ala Gly Glu Glu Gln Pro Gln Val
        115             120             125
```

<210> 792
<211> 461
<212> DNA
<213> Homo sapiens

<400> 792
```
cggcggagct gtgagccggc gactcgggtc cctgaggtct ggattctttc tccgctactg 60
agacacggcg gacacacaca aacacagaac cacacagcca gtcccaggag cccagtaatg 120
gagagcccca aaaagaagaa ccagcagctg aaagtcggga tcctacacct gggcagcaga 180
cagaagaaga tcaggataca gctgagatcc caggtgctgg gaagggaaat gcgcgacatg 240
gaaggtgatc tgcaagagct gcatcagtca aacaccgggg ataaatctgg atttgggttc 300
cggcgtcaag gtgaagataa tacctaaaga ggaacactgt aaaatgccag aagcaggtga 360
agagcaacca caagtttaaa tgaagacaag ctgaaacaac gcaagctggt tttatattag 420
atatttgact taaactatct caataaagtt ttgcagcttt c                     461
```

<210> 793
<211> 108
<212> PRT
<213> Homo sapiens

<400> 793
```
Arg Arg Ser Cys Glu Pro Ala Thr Arg Val Pro Glu Val Trp Ile Leu
                5               10              15

Ser Pro Leu Leu Arg His Gly Gly His Thr Gln Thr Gln Asn His Thr
            20              25              30

Ala Ser Pro Arg Ser Pro Val Met Glu Ser Pro Lys Lys Lys Asn Gln
        35              40              45

Gln Leu Lys Val Gly Ile Leu His Leu Gly Ser Arg Gln Lys Lys Ile
    50              55              60

Arg Ile Gln Leu Arg Ser Gln Val Leu Gly Arg Glu Met Arg Asp Met
65              70              75              80

Glu Gly Asp Leu Gln Glu Leu His Gln Ser Asn Thr Gly Asp Lys Ser
```

<pre>
                 85   90   95
Gly Phe Gly Phe Arg Arg Gln Gly Glu Asp Asn Thr
            100   105
</pre>

<210> 794
<211> 970
<212> DNA
<213> Homo sapiens

<400> 794
<pre>
tgggctccca gagctcgggt cctttgcagc ctccaccctg gcgatggctc cctggtccta 60
ctttctctct caaactggct ttttctcatt cctttgactc cgccagactt cctcgccccc 120
atgacctggt gttgtgtctg atcaccccaa cattcctggc tgcccaatgt ggggcaatga 180
agaccccagt gaaggaatgc tagagtgtgt gaaagtggag gacgcatcgt caaaggacac 240
ctgaggacgt ctcaaagaag ctcggcggga gagctgagcg ctcggaagaa ccaagaatca 300
tctcttttga aaaatcgatt catcaaatga atcttcagcc aacaactgtt caagaaggat 360
gcaaatatca cagtgttaga tgaactttct ggttgacacc tgacaggaag agcctctgta 420
ttggaccacc atgtttgtgc tcactgtgta gtaacaaacc aacacaccaa aatagcggga 480
gttgccactg acaaagagtt gaatgatcaa atgacggcca aggaggagg ttccgagaag 540
taaagctttg gaggtcacaa aattagcaat agaagctggg ttccgccata tagattctgc 600
tcatttatac aataatgagg agcaggttgg actggccatc cgaagcaaga ttgcagatgg 660
cagtgtgaag agagaagaca tattctacac ttcaaagctt tggtccactt ttcatcgacc 720
agagttggtc cgaccagcct ggaaaactc actgaaaaaa gctcaattgg actatgttga 780
cctctatctt attcattctc caatgtctct aaagccaggt gaggaacttt caccaacaga 840
tgaaaatgga aaagtaatat ttgacatagt ggatctctgt accacctggg aggccatgga 900
gaagtgtaag gatgcaggat tggccaagtc cattggggtg tcaaacttca acccgcaggc 960
agctggagat   970
</pre>

<210> 795
<211> 152
<212> PRT
<213> Homo sapiens

<400> 795
<pre>
Arg Pro Lys Glu Glu Val Pro Arg Ser Lys Ala Leu Glu Val Thr Lys
                  5   10   15

Leu Ala Ile Glu Ala Gly Phe Arg His Ile Asp Ser Ala His Leu Tyr
             20   25   30

Asn Asn Glu Glu Gln Val Gly Leu Ala Ile Arg Ser Lys Ile Ala Asp
         35   40   45

Gly Ser Val Lys Arg Glu Asp Ile Phe Tyr Thr Ser Lys Leu Trp Ser
     50   55   60

Thr Phe His Arg Pro Glu Leu Val Arg Pro Ala Leu Glu Asn Ser Leu
 65   70   75   80

Lys Lys Ala Gln Leu Asp Tyr Val Asp Leu Tyr Leu Ile His Ser Pro
                 85   90   95
</pre>

```
Met Ser Leu Lys Pro Gly Glu Glu Leu Ser Pro Thr Asp Glu Asn Gly
            100                 105             110

Lys Val Ile Phe Asp Ile Val Asp Leu Cys Thr Thr Trp Glu Ala Met
            115                 120             125

Glu Lys Cys Lys Asp Ala Gly Leu Ala Lys Ser Ile Gly Val Ser Asn
    130                 135             140

Phe Asn Pro Gln Ala Ala Gly Asp
145                 150
```

<210> 796
<211> 2435
<212> DNA
<213> Homo sapiens

<400> 796

```
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ctgccgtccg tgttggaccc cgccaaggtg cagagcctcg tggacacgat ccgggaggac 120
ccagacagcg tgcccccat cgatgtcctc tggatcaaag gggcccaggg aggtgactac 180
ttctactcct ttggggggctg ccaccgctac gcggcctacc agcaactgca gcgagagacc 240
atccccgcca agcttgtcca gtccactctc tcagacctaa gggtgtacct gggagcatcc 300
acaccagact tgcagtagca gcctccttgg cacctgctgc caccttcaag agcccagaag 360
acacacctgg cctccagcag gctgggccat gcagaaggga tagcaggggt gcattctctt 420
tgcacctggc gagagggtct gactctgggc acccctctca ccagctacaa ggccttggac 480
tcactgtaca gtgtgggagc cccagttccc acctctgtga caataggatc atggccttac 540
ccttgaagca ttaccgagaa ggagaacaga gatgggcttg aagagccacg tgctgccggc 600
tccaaattcc caaggacaag gatccctctg cattttttgtc tatgtaacct cttatatgga 660
ctacattcag ctgcaaggaa aggaaaacct tgattgcagt ggtttaaaca aacagaagat 720
tgtttttcca catagcatgg attctggaga tgggtggcta atggtattgg ttcaacaact 780
ccacgaaggt aggggtcacg tcttggatcc ttttgcctta atctcagtgc tcgttacttc 840
atggtcccaa gatggctgct gtatcccaa gaatcatgtc tgcgttcaag gaaggagggg 900
tggaggaaga ggaagggcca aactagctgg acccgtcacc ttctatcaga aagtaaaacc 960
tcgtcagaag tctgtttcct gctctctccc tctgcatatc ttcacttaga tgcccttggc 1020
ccgagccagc taccattgca cctctagctg caaacaaagc taagacagca gggaacagaa 1080
ttgtcatggc tgaatagacc aatcgtgttc catctactga gactggcaca ctgcctcctg 1140
caataaaact gggatcccat taccaagaga gaaatgcaga attgtgtacc agttagcttt 1200
tgctgtgtaa caaaccatcc ccaaacttgg cagctagaaa caaaccctgt attttcccac 1260
aatcctatgg gttggcaatt tgggctgggc tcaacagggc agttctgctg ctcacacctg 1320
ggatccctca tggagctaag gtcagctgtt acctcagctg ggcctggatg gtctaggata 1380
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gagagtgaga gtagaagctg aaagacttct tgagttcttg gcctggaact gggactagga 1560
cagtgtcact tctgctaagt tcttttggtc agagcaaatc acaaggcttt acccagattc 1620
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aggtaggaca ttccagaggg gcttctgaaa accaagagtc cctggggaaa gggaacagag 1980
taaggcaggc cttgttctca ctgccctcta agggaacttg gtcactcggc actttttaagc 2040
```

```
ctcagtttct ccagttcaat aataaggaca agagcttttc ccatgcattc tctttccccg 2100
ggaaagttga ctgaggtgac cagtaataga attgaaaagg gagagtgtct tcagtgcaat 2160
gtggcatcct ggattgggtc ttggaacaaa aacaggacat tagtgggaaa attggaaatc 2220
tgaaaaagt ctgaatttta gttaatatac caatttcagt cycttggttt tgacagatgt 2280
accatggtga tgtaagatgt tgaccttggg gtaggctggg tgaagggtat acaggaactc 2340
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taatttaaaa aaaaaaaaaa aaaaaaaaaa aaaaa                             2435
```

<210> 797
<211> 120
<212> PRT
<213> Homo sapiens

<400> 797

```
Thr Thr Arg Pro Arg Thr Arg Gly Gln Arg Glu Ser Trp Arg His Leu
                  5                  10                  15

Ala Ser Gly Ala Gly Val Gly Leu Gly Thr Ala Gly Ser Arg Pro Asp
             20                  25                  30

Arg Gly Gly Val Gly Gly Glu Thr Arg Ala Ala Leu Ala Arg Ala Pro
         35                  40                  45

Pro Pro Gly Arg Ala Glu Trp Tyr Gly Pro Ala Gly Val Lys Ala Gly
     50                  55                  60

Gly Arg Arg Arg Val Pro Arg Arg Arg Arg Trp Gly Cys Val Gln
  65                  70                  75                  80

Glu Glu Arg Trp Ala Gly Pro Ala Arg Val Gly Gly Arg Pro Arg Gly
                 85                  90                  95

Pro Gly Arg Ala Ala Ala Arg Arg Ala Ala Ala Ser Thr Arg Ala Ala
             100                 105                 110

Ser Pro Arg Cys Thr Thr Cys Arg
         115                 120
```

<210> 798
<211> 164
<212> PRT
<213> Homo sapiens

<400> 798

```
Pro Arg Val Arg Gly Arg Val Gly Ser Ala Ser His Gly Gly Thr Trp
                  5                  10                  15

Arg Ala Glu Pro Glu Ser Gly Trp Gly Pro Arg Gly Arg Gly Arg Thr
             20                  25                  30

Ala Ala Gly Ser Gly Glu Lys Arg Ala Leu Pro Trp His Gly Pro Pro
```

```
                 35                    40                         45

     Pro Pro Ala Ala Arg Asn Gly Met Ala Arg Pro Glu Leu Arg Pro Gly
         50                    55                    60

     Gly Gly Gly Glu Ser Arg Gly Gly Gly Asp Asp Gly Ala Ala Cys Arg
     65                    70                    75                    80

     Arg Asn Ala Gly Gln Gly Arg Arg Gly Ser Gly Gly Ala Arg Gly Ala
                     85                    90                         95

     Arg Ala Glu Arg Arg Arg Ala Gly Arg Gln His Pro Leu Gly Pro His
                 100                   105                   110

     Arg Arg Gly Ala Gln Arg Ala Ala Glu Arg Ala His Pro Ala Ala Ala
                 115                   120                   125

     Val Arg Val Gly Pro Arg Gln Gly Ala Glu Pro Arg Gly His Asp Pro
         130                   135                   140

     Gly Gly Pro Arg Gln Arg Ala Pro His Arg Cys Pro Leu Asp Gln Arg
     145                   150                   155                   160

     Gly Pro Gly Arg


     <210> 799
     <211> 60
     <212> PRT
     <213> Homo sapiens

     <400> 799
     His Ala Ser Ala Asp Ala Trp Ala Ala Arg Val Met Ala Ala Pro Gly
                      5                    10                    15

     Glu Arg Ser Arg Ser Arg Ala Gly Asp Arg Gly Val Glu Ala Gly Pro
                     20                    25                    30

     Arg Arg Gly Arg Gly Arg Asn Ala Arg Cys Pro Gly Thr Gly Pro Pro
                 35                    40                    45

     Pro Arg Pro Arg Gly Met Val Trp Pro Gly Arg Ser
         50                    55                    60



     <210> 800
     <211> 2477
     <212> DNA
     <213> Homo sapien

     <400> 800
     gccttggcaa aaaagcacaa gcgaacccca gccctgattg ccctgcgcta ccagctacag 60
     cgtggggttg tggtcctggc caagagctac aatgagcagc gcatcagaca gaacgtgcag 120
```

```
gtgtttgaat tccagttgac ttcagaggag atgaaagcca tagatggcct aaacagaaat 180
gtgcgatatt tgacccttga tatttttgct ggcccccta attatccatt ttctgatgaa 240
tattaacatg gagggcattg catgaggtct gccagaaggc cctgcgtgtg gatggtgaca 300
cagaggatgg ctctatgctg gtgactggac acatcgcctc tggttaaatc tctcctgctt 360
ggtgatttca gcaagctaca gcaaagccca ttggccagaa aggaaagaca ataattttgt 420
tttttcattt tgaaaaaatt aaatgctctc tcctaaagat tcttcaccta ctttggtctc 480
cataacttct atgttttctt tccttctgac acactagtgc ccctaaattg tgatttgcct 540
atacgtttag ggccgggggtt ggaagatgtt aacaaccatt taagattcat ttctgcagtg 600
ggagtgggtg gagtttcacc ctctgggaaa ggggcaggtg acaggtattt atcagtcagt 660
gcctctctag ctcttgtagg aagaagcaca cgcaggatgg agtctagagg atgagcgata 720
ttgactagca attcatgggc tccctccagc agtgcgaggg tcagagtttc tggagccttg 780
ggaggaggca tccctgtgag gggggggttag ggagatggga gggcaccagg aaaagtgatt 840
agaagtcagg tatgggaagg ctaaatagga cagagtcgag tacatctctg cttggaaaaa 900
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<212> DNA
<213> Homo sapien
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<211> 3115
<212> DNA
<213> Homo sapien

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<211> 1238
<212> DNA
<213> Homo sapien
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<210> 804
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<212> DNA
<213> Homo sapiens

<400> 804
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<211> 394
<212> PRT
<213> Homo sapiens

<400> 805

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Ser His Gly Thr Leu Gly Leu Pro Ser Gly Gly Lys Cys Leu Leu Leu
         35                  40                  45

Asp Cys Arg Pro Phe Leu Ala His Ser Ala Gly Tyr Ile Leu Gly Ser
      50                  55                  60

Val Asn Val Arg Cys Asn Thr Ile Val Arg Arg Ala Lys Gly Ser
   65                  70                  75                  80

Val Ser Leu Glu Gln Ile Leu Pro Ala Glu Glu Glu Val Arg Ala Arg
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Gln Ala Leu Arg Arg Asn Ala Glu Arg Thr Asp Ile Cys Leu Leu Lys
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Gly Gly Tyr Glu Arg Phe Ser Ser Glu Tyr Pro Glu Phe Cys Ser Lys
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Thr Lys Ala Leu Ala Ala Ile Pro Pro Val Pro Pro Ser Ala Thr
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Glu Pro Leu Asp Leu Asp Cys Ser Ser Cys Gly Thr Pro Leu His Asp
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Gln Glu Gly Pro Val Glu Ile Leu Pro Phe Leu Tyr Leu Gly Ser Ala
            195                 200                 205

Tyr His Ala Ala Arg Arg Asp Met Leu Asp Ala Leu Gly Ile Thr Ala
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225                 230                 235                     240

Gln Tyr Lys Cys Ile Pro Val Glu Asp Asn His Lys Ala Asp Ile Ser
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Ser Trp Phe Met Glu Ala Ile Glu Tyr Ile Asp Ala Val Lys Asp Cys
                260                 265                 270

Arg Gly Arg Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Ala
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Thr Ile Cys Leu Ala Tyr Leu Met Met Lys Lys Arg Val Arg Leu Glu
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Glu Ala Phe Glu Phe Val Lys Gln Arg Arg Ser Ile Ile Ser Pro Asn
305                 310                 315                     320

Phe Ser Phe Met Gly Gln Leu Leu Gln Phe Glu Ser Gln Val Leu Ala
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Thr Ser Cys Ala Ala Glu Ala Ala Ser Pro Ser Gly Pro Leu Gly Glu
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Arg Gly Lys Thr Pro Ala Thr Pro Thr Ser Gln Phe Val Phe Ser Phe
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Pro Val Ser Val Gly Val His Ser Ala Pro Ser Ser Leu Pro Tyr Leu
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385   390

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<212> PRT
<213> Homo sapiens

<400> 806
Val Arg Ala Arg Leu Arg Ser Gly Leu Tyr Ser Ala Val Ile Val Tyr
                5   10   15

Asp Glu Arg Ser Pro Arg Ala Glu Ser Leu Arg Glu Asp Ser Thr Val
            20   25   30

Ser Leu Val Val Gln Ala Leu Arg Arg Asn Ala Glu Arg Thr Asp Ile
        35   40   45

Cys Leu Leu Lys Gly Gly Tyr Glu Arg Phe Ser Ser Glu Tyr Pro Glu
    50   55   60

Phe Cys Ser Lys Thr Lys Ala Leu Ala Ala Ile Pro Pro Pro Val Pro
65   70   75   80

Pro Ser Ala Thr Glu Pro Leu Asp Leu Gly Cys Ser Ser Cys Gly Thr
                85   90   95

Pro Leu His Asp Gln Gly Gly Pro Val Glu Ile Leu Pro Phe Leu Tyr
            100   105   110

Leu Gly Ser Ala Tyr His Ala Ala Arg Arg Asp Met Leu Asp Ala Leu
        115   120   125

Gly Ile Thr Ala Leu Leu Asn Val Ser Ser Asp Cys Pro Asn His Phe
        130   135   140

Glu Gly His Tyr Gln Tyr Lys Cys Ile Pro Val Glu Asp Asn His Lys
145   150   155   160

Ala Asp Ile Ser Ser Trp Phe Met Glu Ala Ile Glu Tyr Ile Asp Ala
                165   170   175

Val Lys Asp Cys Arg Gly Arg Val Leu Val His Cys Gln Ala Gly Ile
            180   185   190

Ser Arg Ser Ala Thr Ile Cys Leu Ala Tyr Leu Met Met Lys Lys Arg
        195   200   205

Val Arg Leu Glu Glu Ala Phe Glu Phe Val Lys Gln Arg Arg Ser Ile
    210   215   220

```
Ile Ser Pro Asn Phe Ser Phe Met Gly Gln Leu Leu Gln Phe Glu Ser
225               230             235                     240

Gln Val Leu Ala Thr Ser Cys Ala Ala Glu Ala Ala Ser Pro Ser Gly
                245             250                     255

Pro Leu Arg Glu Arg Gly Lys Thr Pro Ala Thr Pro Thr Ser Gln Phe
            260             265             270

Val Phe Ser Phe Pro Val Ser Val Gly Val His Ser Ala Pro Ser Ser
            275             280             285

Leu Pro Tyr Leu His Ser Pro Ile Thr Thr Ser Pro Ser Cys
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```

<210> 807
<211> 3829
<212> DNA
<213> Homo sapiens

<400> 807

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ggttagggag atgggagggc accaggaaaa gtgattagaa gtcaggtatg ggaaggctaa 1920
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cgtacgcaat gtaggaagct gtaattactg accaaaacta tgtgaagtgg agaaaacctg 3660
gggaagtgga tggttttaga tgaaactgaa gttaaattca tattgattta aagtaaattg 3720
ttataacttt ataaagtttt tcatcatcac cacagcaatc acaaagagaa taattatgaa 3780
tatacgcaag aggaaatgag aagggaatcc aaatgtcatt aaaaaaaaa        3829
```

```
<210> 808
<211> 781
<212> DNA
<213> Homo sapiens

<400> 808
gcggcggagc tgtgagccgg cgactcgggt ccctgaggtc tggattcttt ctccgctact 60
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gaagaggaac cagcaggctt ccggagggtt gtgtggtcag tgactcagag tgagaaggcc 180
ctcgaagtcg tcgtccctct catgcggtgc cacgcccatg gaccttcttg tctcgtcacg 240
gccataacta gggaggaagg agggccgagg agtggagggg ctcagcgaa gctggggtgc 300
tgttgggggt atccgagtcc cagaagcacc tggaaccccg acagaagatt ctggactccc 360
cagacgggac caggagaggg acggcatgag cgacacacac aaacacagaa ccacacagcc 420
agtcccagga gcccagtaat ggagagcccc aaaaagaaga accagcagct gaaagtcggg 480
atcctacacc tgggcagcag acagaagaag atcaggatac agctgagatc ccagtgcgcg 540
acatggaagg tgatctgcaa gagctgcatc agtcaaacac cggggataaa tctggatttg 600
ggttccggcg tcaaggtgaa gataatacct aaagaggaac actgtaaaat gccagaagca 660
ggtgaagagc aaccacaagt ttaaatgaag acaagctgaa acaacgcaag ctggttttat 720
attagatatt tgacttaaac tatctcaata aagtttgca gctttcacca aaaaaaaaaa 780
```

```
<210> 809
<211> 160
<212> PRT
<213> Homo sapiens

<400> 809
Met Arg Cys His Ala His Gly Pro Ser Cys Leu Val Thr Ala Ile Thr
                  5               10              15

Arg Glu Glu Gly Gly Pro Arg Ser Gly Gly Ala Gln Ala Lys Leu Gly
              20              25              30

Cys Cys Trp Gly Tyr Pro Ser Pro Arg Ser Thr Trp Asn Pro Asp Arg
          35              40              45

Arg Phe Trp Thr Pro Gln Thr Gly Pro Gly Glu Gly Arg His Glu Arg
    50              55              60

His Thr Gln Thr Gln Asn His Thr Ala Ser Pro Arg Ser Pro Val Met
65              70              75              80

Glu Ser Pro Lys Lys Lys Asn Gln Gln Leu Lys Val Gly Ile Leu His
              85              90              95

Leu Gly Ser Arg Gln Lys Lys Ile Arg Ile Gln Leu Arg Ser Gln Cys
          100             105             110

Ala Thr Trp Lys Val Ile Cys Lys Ser Cys Ile Ser Gln Thr Pro Gly
          115             120             125

Ile Asn Leu Asp Leu Gly Ser Gly Val Lys Val Lys Ile Ile Pro Lys
    130             135             140

Glu Glu His Cys Lys Met Pro Glu Ala Gly Glu Glu Gln Pro Gln Val
145             150             155             160


<210> 810
<211> 624
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(624)
<223> n=A,T,C or G

<400> 810
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agccccctcat gatnggcacc gggacagtca cgaggaaggg ctccaccttc cggcccatgg 120
acacggatgc cgaggaggca ggggtgagca ccgatgccgg cggccactat gactgcccgc 180
```

```
agcgggccgg ccgccacgag tacgcgctgc ccctggcgcc cccggagccc gagtacgcca 240
cgcccatcgt ggagcggcac gtgctgcgcg cccacacgtt ctctgcgcag agcggctacc 300
gcgtcccagg gccccagccc ggccacaaac actccctctc ctcgggcggc ttctcccccg 360
tagcgggtgt gggcgcccag gacggagact atcaaaggcc acacagcgca cagcctgcgg 420
acaggggcta cgaccggccc aaagctgtca gcgccctcgc caccgaaagc ggacaccctg 480
actctcagaa gcccccaacg catcccggga caagtgacag ctattctgcc cccagagact 540
gcctcacacc cctcaaccag acggccatga ctgccctttt gtgaacacaa tgtgaaagaa 600
gcctgctgtg gtactgagcg tcgg                                      624
```

```
<210> 811
<211> 572
<212> DNA
<213> Homo sapiens

<400> 811
agcgggctgt gaggacgctc tgggccaggc tgcagcgcga gcgttccgag ctgctgggct 60
ctttcgagga tgttctgata cgcgcgtcgg cctgcctgga ggaggcggcc cgggagcgcg 120
acggcctgga gcaggcgctg cggaggcgcg agagcgagca cgagagggag gtgcgcgctc 180
tgtacgagga gacggagcag cttcgggagc agagccggcg cccgccgagt cagaacttcg 240
cccgcgggga gcggagaagc cgtctggagc tggagctgca gatccgcgag caggacctgg 300
aacgcgcggg cctgcggcag cgggagttag agcagcagct gcacgcccag gctgcggagc 360
acctggaggc acaggcccag aactcccagc tgtggcgggc gcacgaggcg ctgcgaacgc 420
agctggaggg ggcgcaggag cagatccgca ggctggagag cgaagcacga ggccgccagg 480
agcaaaccca acgagacgtg gtcgccgtct ccaggaacat gcagaaagag aaagtcagcc 540
tgctacggca actggagctg ctcaggagc tg                              572
```

```
<210> 812
<211> 594
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(594)
<223> n=A,T,C or G

<400> 812
cggaagttgg cgcagcgcgg ttgccaatgg tcgctccctg atttnatgcc gctcgtggtg 60
ttttgcgggc tgccgtacag cggcaagagc cggcgtgctg aagagttgcg cgtggcgctg 120
gctgccgagg gccgcgcggt gtacgtggtg gacgacgcag ctgtcctggg cgcagaggac 180
ccagcggtgt acggcgattc tgcccgtgag aaggcattgc gtggagctct gcgagcctcc 240
gtggaacggc gcctgagtcg ccacgacgtg gtcatcctgg actcgcttaa ctacatcaaa 300
ggtttccgtt acgagctcta ctgcctggca cgggcggcgc gcaccccgct ctgcctggtc 360
tactgcgtac ggcccggcgg cccgatcgcg ggacctcagg tggcgggcgc gaacgagaac 420
cctggccgga acgtcagtgt gagttggcgg ccacgcgctg aggaggacgg gagagcccag 480
gcggcgggca gcagcgtcct cagggaactg catactgcgg actctgtagt aaatggaagt 540
gcccaggccg acgtacccaa ggaactggag cgagaagaat ccggggctgc ggag       594
```

```
<210> 813
<211> 561
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```
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(561)
<223> n=A,T,C or G

<400> 813
tctgacacac gagaccggtt atcccatctc cgcgcccctc tgtgggtatt acacagccac 60
tagatgaagc caaacattgt tggaggtact gaaatcttag actccaccat gtgtccagga 120
ncccattgac gtcctctctt ctgaaaactc cgtgtggccc tcgctctgca ctgtcatgag 180
gcggtgatgg agctagatac ccaccacgga caatgatcat cagtttgggg ttctctgggt 240
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acgggatctc tcatccaggc gatacgtctg gtcctgtggc atgtggctct cnacgaaaca 360
ccagggangc attatgttgg ggacttcttg gggctctgct ggtctctgct ccagacacga 420
ttaatccgaa atgtgttaan tcgancacat gggtccacgt ccaggacagc tcccatcgaa 480
ctctcnaggc tctctanctc agggatgaag gaggtnaagt gatcgatnct cacaagcgan 540
agctctcgcn cnatatctgc g                                         561

<210> 814
<211> 307
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(307)
<223> n=A,T,C or G

<400> 814
cntcgnggng ttggttgtgt gggntnttct cgggtgattg ggtgnnatta ctggacccaa 60
ccnncgtgga aanggctggg nncgcggccg ntctngcaga agtatcccga ttttttttt 120
ttttttttt ttttggngg agggaaantt ncagacatag ctttattgct gactcctgcc 180
cccttcanag ccctagtcac aggcnncagg gntgttttgt aanttaaant ttcnggaaaa 240
tnggngtntt tntgcatnca anagaagggn tgccaaangn ggggtattgc ttctgggtgg 300
nttaccc                                                        307

<210> 815
<211> 784
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(784)
<223> n=A,T,C or G

<400> 815
ggcacgagat ataatcagac tcttactcct gtacttctag aaatgatgca aacacttcaa 60
ggacccacaa atgtggaaga tatgaatgca ctgttaatca aagatgctgt gtataatgct 120
gttggattaa gctgcttatg agctctttga cagtgttgat tttgatcagt ggtttaaaaa 180
ccagcttctt ccagaattac aagtcattca caataggtat aagccattgc gacgcagggt 240
gatttggctc atcggtcagt ggatttctgt gaaattcaag tctgacttaa gacccatgct 300
```

```
ttatgaagca atctgtaact tgcttcaaga tcaagattta gtggccgtat tgaaacagct 360
acaactttga agttaactgt tgatgatttt gaatttagaa cagatcagtt tctaccgtat 420
ttggaaacca tgttcacact acttttttcag ttactgcagc aagttacaga atgtgacaca 480
aagatgcatg ttttgcatgt cctttcttgt gtgatcgaaa gagtcaacat gcagatacga 540
ccatatgtgg gatgtttggt acaatatttg cccctccttt ggaagcagaa gtgaanaaca 600
caatatgttg agatgtgcta ttttgaccac acttattcat cttggtcagg gattangagc 660
agacagcaag acctgtccct ttcctgctcc agttattcac tgagtaccag atgtttcaca 720
gccttcncat gtttatttttt ctggaaaatg ggttaaaaat atnggtanga acctttggga 780
aaac                                                              784
```

```
<210> 816
<211> 813
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(813)
<223> n=A,T,C or G

<400> 816
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ccacccttgc cctttaaacc acagatgcca aatgatacgc caacagacac tacattcccc 120
agcagctgct gccagagccc tcttgtagct tctttatttt ctgtttcttt ccagctttcc 180
taccctccta tccccccttg tgtttgggcc acaatttttga aataattttt attataggta 240
tgtgctgcca aagccagatt tttataaggt aaaataaatt aagaatttaa acagtaaaag 300
ccagtgtctc aaaatgtcag cattaaaatg tgaaggggac agcagggtgt gaaccggaaa 360
cacacattgc caaacagttg ccaactgaac tgctgcttct catggtccgt tcttttcttt 420
gcccttaagg tcaatgccag tgtccagacg agcagtgtag aaaagctccc tgtgtggttt 480
gtcgtgaggt ctgcttgtat ctcttcactg gcgttagttt cattagctct ttattctcct 540
tacgttcgag tgaatctgcc aagaacactg gtggatagta ttatcctaac acttttggtt 600
tggggcggg gaggggcag ggaatagtga ctggctttta ccaccttcag gatctcgaat 660
tgggcgcttg aacctaagaa agattgtgga cttatcaaaa gtcaccgctc agtgttcgtc 720
aagcatgtat ttatgtgacn atcatactag ggaggggatg gttgggaatt cttccatgtg 780
caaatttngn cccgcaanaa gcaaaactgg ngt                               813
```

```
<210> 817
<211> 229
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(229)
<223> n=A,T,C or G

<400> 817
gaaacttttta cattaatgat ttattaaaan aaacaactcc ttgtcccact ccactgngct 60
gcttgtaatc tccatacatg gcctccattt tcaactgttt tnttggtcac anagctccaa 120
acanacacat ttttttttcc aggtaaaagc tgtttttagt ttgtagtaca aatgtgactg 180
catccaatac tgacacattg ttcctttggc ccacagtccc antcaccac               229
```

```
<210> 818
<211> 781
```

```
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(781)
<223> n=A,T,C or G

<400> 818
ggcacgaggt gtgtgtgtgt gtgtgtgtgt aacacatggg cattggtcct tccaggacaa 60
cttggttagg gctccagggt ggcctctcag gcaggaacag gctttttttcc tcctgtcttt 120
tcctcacatc acgtcctgcc ccaggtcact gcataaataa gtgctttgga aagtattcat 180
ctagaaagta acataaatac tgtacataga aaagggttgc cgcccttag ccttcgcact 240
gccccagaga gctctccaca tattgcacac ggcctcccca gccctgtggg gtccaggcct 300
ggctgtgtct ttggtagaag cttcagggac agttcctggg cagcccccac atctncaccc 360
tgctcccaaa ggggagctct agggtagtca gtgggtacca gaagccttgc tcggcctcgc 420
tggtggcctt ctaccangga tgctttcaca aggatgagac agaatcccaa tggtatgccc 480
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gcaggtggac aggtgantcc tggccacana aggcaggctc acacccttca cangaatagg 600
tggtttgngc tgtcatctcg gcccacggtc tcctnntgcg ccaccccccc ttnntgaatc 660
gnaantcctc aaanccctta ccaccacttg atgaccnanc atttttangg cctggcttga 720
aggngggggc cttggccccc ccnaaggggg aaatnccccc ggnngaatnc ccaanggggga 780
a                                                                  781

<210> 819
<211> 199
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(199)
<223> n=A,T,C or G

<400> 819
cnnngtggaa anggctgggn nngcggccgt tttcgnngta gtatcgcgnt tttttttttt 60
ttttgtggg aggttntgcn gtntttgntt gctctctcaa attccaggaa ttgacttatt 120
taattaatgc ctgcaacctg tgctagcaaa tatttgnaca aaacnanttg tgttggngat 180
gttcttttgg gtcgggcag                                                199

<210> 820
<211> 211
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(211)
<223> n=A,T,C or G

<400> 820
nnnggcacga ggagagagag agagagagag agagagagag agagagagag agagagagag 60
agagagagag agagagagag agagagagag agagagagag agagagagag agagagagag 120
agacagtnct ntgtgtgtct ctctgtctcn aagtacncnc tgaggnatct gntntctgtn 180
```

tntgngtaca cngtatctct cntggncata t   211

<210> 821
<211> 952
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(952)
<223> n=A,T,C or G

<400> 821
nnntcaggct cctggatgag ccctgcgana gagggtggca gcacggagag agctgctgga 60
ggcagcagag caccaaggaa acatccagac atgcgcggcc cggcccatcc gctcccggaa 120
cagcaccaag acgaaatggg aaactacatg tccccaggtt cgaggctgca ggggcagact 180
ctggtgtgaa cagggggggat gtgaccacct aaggaaaagg tcacacctgt cttggtatca 240
ggggctcaag agctctcaaa aatgtaaggg gccgacagtc ccctgcccca ggcctgatca 300
caactccagg gtcatgaggt cagagtaaag tgcagaggtt tttaaacata accaaaattt 360
caggagaggc caattcttac ttgaaagagc aacaccctgg ggcgctgctt gccattactt 420
cctcatcttt agcaacacat ttgcttttca aggtgttcct tgtggaaaca cacatacaca 480
tagacacatg cccctcagat gtccctgcc ccctgattag tagaatgtgg ggtttccaca 540
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ggcccaatgt aaatacttcc gcagagatgg agggcattca aaacaggttc tgaaaggatc 660
cagcctatct tggactttgt tctggaancc anggattcag cnttggccac ctgtgccagg 720
cttgcaaggc ctggtgtgaa cncccaaant ggcagcaaaa acaacanaca gccnctgcac 780
tttggntgga ccaacgtttg gcctnaacaa atctngcggg ttgggatntt cttgntttcn 840
cncccagggg accnaaaacc cccntacntg naataaccnt ttttttttnn aaccntttan 900
ccantgggnt tnccnaaaaa acttgncccc tttttttntc caanggnaaa at   952

<210> 822
<211> 587
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(587)
<223> n=A,T,C or G

<400> 822
ggcacgagaa ctagtctcga gttttttttt tttttttta acatttctga attttattat 60
ttttagggaa gacacgcagt ttcacaagaa acaatgattt ttctcaaaca atagaaaaaa 120
aggtcttttt gaaaaatcca ctgtcttaga tgaaaagtct acccagcaag cactggggca 180
gttctgagag tagaaaccag tgtggtggaa gttacttata ggaagttcag tgcagaggtc 240
tccacaagtc ctgattagtt ctgnaaggct ccattgggcc agctcaggt aacagtggga 300
atgagctcac agacaaaggc aggcaccagt tcctntgccc gggatgcagg ctggctcact 360
ccccangcgg ntgcatcttg cttcagactc atcaaactgc tgctgtccan ctncgncatg 420
actntgttga gaacatanaa ctctgctctc tggctttgct tcanctcctg gtgggcnnaa 480
ttctgcttag ccttctncac tntgaaggnt gggtctttaa cttttggatt ttttttttccn 540
ggcaggggga accatgaatg gggtacatac ccacncnggg ntttggc   587

<210> 823
<211> 264

```
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(264)
<223> n=A,T,C or G

<400> 823
ntcnatncct actangncaa actgactccg ccctnagnca cctngtggtc canggctgcg 60
gagctgcgat acagccttcc gcgggtctgn tggaaccccg acctntcntg gtgtntntcc 120
ntcccncncc ccaacccgcc aagggcctgc ctttcctnct gggcctttgc cagcgntngg 180
ccanaccggg gccaaaccgg nccccgggca cattttaacc nagggcncnc ttntagaana 240
aaaccccggn tgatgttata aagg                                       264


<210> 824
<211> 520
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(520)
<223> n=A,T,C or G

<400> 824
tcaagcngcc cccantntga tggatatctg caaaattcnc cctttcaccg gccgcccgcn 60
gcatgtctta ttatacaaca natccaactt ccctaagngg ntcacacatn ntaaggtatt 120
gttaacaaaa taggaaantc tattngaact aacaatcatc tctttgaatc tgcntatccc 180
attaaaagca ttttcctcaa tattcctcat atcggttatg gncaatggat acccatctga 240
gctggttgan ccctttaaat tnattatact taactttttg aaggctgtta tacccaaggg 300
acaaacctaa ncaaccanca gatatacttg anggtntctc ctgtnatttc tcagattcca 360
atataccatt ttgcctttac acctacagcc cttaggggca tcctcnttcc ncanaacaaa 420
ncattntcac taagacagnc tggggtnntn caccaatggc taccaaacct ctgnccgcna 480
cccaccgcnt aaanggcnga aattnccnan ccacacgggt                      520


<210> 825
<211> 2064
<212> DNA
<213> Homo sapiens

<400> 825
cggtgcgctg agcgccggag gagcgtaggc agggcagcgc tggcgccagt ggcgacagga 60
gccgcgcgac cggcaaaaat acacgggagg ccgtcgccga aaagagtccg cggtcctctc 120
tcgtaaacac actctcctcc accggcgcct ccccctccgc tctgcgcgcc gcccggctgg 180
gcgcccgagg ccgctccgac tgctatgtga ccgcgaggct gcgggaggaa ggggacaggg 240
aagaagaggc tctcccgcgg gagcccttga ggaccaagtt tgcggccact tctgcaggcg 300
tcccttctta gctctcgccc gcccctttct gcagcctagg cggcccgggt tctcttctct 360
tcctcgcgcg cccagccgcc tcggttcccg gcgaccatgg tgacgatgga ggagctgcgg 420
gagatggact gcagtgtgct caaaaggctg atgaaccggg acgagaatgg cggcggcgcg 480
ggcggcagcg gcagccacgg caccctgggg ctgccgagcg gcggcaagtg cctgctgctg 540
gactgcagac cgttcctggc gcacagcgcg ggctacatcc taggttcggt caacgtgcgc 600
tgtaacacca tcgtgcggcg gcgggctaag ggctccgtga gcctggagca gatcctgccc 660
gccgaggagg aggtacgcgc ccgcttgcgc tccggcctct actcggcggt catcgtctac 720
```

```
gacgagcgca gcccgcgcgc cgagagcctc cgcgaggaca gcaccgtgtc gctggtggtg 780
caggcgctgc gccgcaacgc cgagcgcacc gacatctgcc tgctcaaagg cggctatgag 840
aggttttcct ccgagtaccc agaattctgt tctaaaacca aggccctggc agccatccca 900
cccccggttc cccccagtgc cacagagccc ttggacctgg gctgcagctc ctgtgggacc 960
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gtgaaggact gccgtgggcg cgtgctggtg cactgccagg cgggcatctc gcggtcggcc 1260
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cagttcgagt cccaggtgct ggccacgtcc tgtgctgcgg aggctgctag cccctcggga 1440
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ccggtctccg tgggcgtgca ctcggccccc agcagcctgc cctacctgca cagccccatc 1560
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caagggtagg acgggccgca tgcgggcaga aagttgggac tgagcagctg ggagcaggcg 1680
accgagctcc ttccccatca tttctccttg gccaacgacg aggccagcca gaatggcaat 1740
aaggactccg aatacataat aaaagcaaac agaacactcc aacttagagc aataacggct 1800
gccgcagcag ccagggaaga ccttggtttg gtttatgtgt cagtttcact tttccgatag 1860
aaatttctta cctcattttt ttaagcagta aggcttgaag tgatgaaacc cacagatcct 1920
agcaaatgtg cccaaccagc tttactaaag ggggaggaag ggagggcaaa gggatgagaa 1980
gacaagtttc ccagaagtgc ctggttctgt gtacttgtcc ctttgttgtc gttgttgtag 2040
ttaaaggaat ttcatttttt aaaa                                         2064
```

<210> 826
<211> 2109
<212> DNA
<213> Homo sapiens

<400> 826
```
tggcgccagc ggcgacagga gccgcgcgac cggcaaaaat acacgggagg ccgtcgccga 60
aaagagtccg cggtcctctc tcgtaaacac actctcctcc accggcgcct ccccctccgc 120
tctgcgcgcc gcccggctgg cgcccgagg ccgctccgac tgctatgtga ccgcgaggct 180
gcgggaggaa ggggacaggg aagaagaggc tctcccgcgg gagcccttga ggaccaagtt 240
tgcggccact tctgcaggcg tcccttctta gctctcgcct gccccttct gcagcctagg 300
cggcccaggt tctcttctct tcctcgcgcg cccagccgcc tcggttcccg cgaccatgg 360
tgacgatgga ggagctgcgg gagatggact gcagtgtgct caaaaggctg atgaaccggg 420
acgagaatgg cggcggcgcg ggcggcagcg gcagccacgg caccctgggg ctgccgagcg 480
gcggcaagtg cctgctgctg gactgcagac cgttcctggc gcacagcgcg ggctacatcc 540
taggttcggt caacgtgcgc tgtaacacca tcgtgcggcg gcgggctaag ggctccgtga 600
gcctggagca gatcctgccc gccgaggagg aggtacgcgc ccgcttgcgc tccggcctct 660
actcggcggt catcgtctac gacgagcgca gcccgcgcgc cgagagcctc cgcgaggaca 720
gcaccgtgtc gctggtggtg caggcgctgc gccgcaacgc cgagcgcacc gacatctgcc 780
tgctcaaagg cggctatgag aggttttcct ccgagtaccc agaattctgt tctaaaacca 840
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gctgcagctc ctgtgggacc ccactacacg accagggggg tcctgtggag atccttccct 960
tcctctacct cggcagtgcc taccatgctg cccggagaga catgctggac gccctgggca 1020
tcacggctct gttgaatgtc tcctcggact gcccaaacca ctttgaagga cactatcagt 1080
acaagtgcat cccagtggaa gataaccaca aggccgacat cagctcctgg ttcatggaag 1140
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cgggcatctc gcggtcggcc accatctgcc tggcctacct gatgatgaag aaacgggtga 1260
ggctggagga ggccttcgag ttcgttaagc agcgccgcag catcatctcg cccaacttca 1320
gcttcatggg gcagctgctg cagttcgagt cccaggtgct ggccacgtcc tgtgctgcgg 1380
aggctgctag cccctcggga cccctgcggg agcggggcaa gacccccgcc accccaccct 1440
```

```
cgcagttcgt cttcagcttt ccggtctccg tgggcgtgca ctcggccccc agcagcctgc 1500
cctacctgca cagccccatc accacctctc ccagctgtta gagccgccct gggggcccca 1560
gaaccagagc tggctcccag caagggtagg acgggccgca tgcgggcaga aagttgggac 1620
tgagcagctg ggagcaggcg accgagctcc ttccccatca tttctccttg gccaacgacg 1680
aggccagcca gaatggcaat aaggactccg aatacataat aaaagcaaac agaacactcc 1740
aacttagagc aataacggct gccgcagcag ccagggaaga ccttggtttg gtttatgtgt 1800
cagtttcact tttccgatag aaatttctta cctcattttt ttaagcagta aggcttgaag 1860
tgatgaaacc cacagatcct agcaaatgtg cccaaccagc tttactaaag ggggaggaag 1920
ggagggcaaa gggatgagaa gacaagtttc ccagaagtgc ctggttctgt gtacttgtcc 1980
ctttgttgtc gttgttgtag ttaaaggaat ttcatttttt aaaagaaatc ttcgaaggtg 2040
tggttttcat ttctcagtca ccaacagatg aataattatg cttaataata aagtatttat 2100
taagacttt                                                         2109
```

<210> 827
<211> 394
<212> PRT
<213> Homo sapiens

<400> 827

```
Met Val Thr Met Glu Glu Leu Arg Glu Met Asp Cys Ser Val Leu Lys
                5                   10                  15

Arg Leu Met Asn Arg Asp Glu Asn Gly Gly Gly Ala Gly Gly Ser Gly
            20                  25                  30

Ser His Gly Thr Leu Gly Leu Pro Ser Gly Gly Lys Cys Leu Leu Leu
        35                  40                  45

Asp Cys Arg Pro Phe Leu Ala His Ser Ala Gly Tyr Ile Leu Gly Ser
    50                  55                  60

Val Asn Val Arg Cys Asn Thr Ile Val Arg Arg Arg Ala Lys Gly Ser
65                  70                  75                  80

Val Ser Leu Glu Gln Ile Leu Pro Ala Glu Glu Glu Val Arg Ala Arg
                85                  90                  95

Leu Arg Ser Gly Leu Tyr Ser Ala Val Ile Val Tyr Asp Glu Arg Ser
            100                 105                 110

Pro Arg Ala Glu Ser Leu Arg Glu Asp Ser Thr Val Ser Leu Val Val
        115                 120                 125

Gln Ala Leu Arg Arg Asn Ala Glu Arg Thr Asp Ile Cys Leu Leu Lys
    130                 135                 140

Gly Gly Tyr Glu Arg Phe Ser Ser Glu Tyr Pro Glu Phe Cys Ser Lys
145                 150                 155                 160

Thr Lys Ala Leu Ala Ala Ile Pro Pro Val Pro Pro Ser Ala Thr
                165                 170                 175

Glu Pro Leu Asp Leu Gly Cys Ser Ser Cys Gly Thr Pro Leu His Asp
            180                 185                 190
```

```
Gln Gly Gly Pro Val Glu Ile Leu Pro Phe Leu Tyr Leu Gly Ser Ala
        195             200             205
```

```
Tyr His Ala Ala Arg Arg Asp Met Leu Asp Ala Leu Gly Ile Thr Ala
    210             215             220
```

```
Leu Leu Asn Val Ser Ser Asp Cys Pro Asn His Phe Glu Gly His Tyr
225             230             235             240
```

```
Gln Tyr Lys Cys Ile Pro Val Glu Asp Asn His Lys Ala Asp Ile Ser
            245             250             255
```

```
Ser Trp Phe Met Glu Ala Ile Glu Tyr Ile Asp Ala Val Lys Asp Cys
        260             265             270
```

```
Arg Gly Arg Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Ala
        275             280             285
```

```
Thr Ile Cys Leu Ala Tyr Leu Met Met Lys Lys Arg Val Arg Leu Glu
    290             295             300
```

```
Glu Ala Phe Glu Phe Val Lys Gln Arg Arg Ser Ile Ile Ser Pro Asn
305             310             315             320
```

```
Phe Ser Phe Met Gly Gln Leu Leu Gln Phe Glu Ser Gln Val Leu Ala
            325             330             335
```

```
Thr Ser Cys Ala Ala Glu Ala Ala Ser Pro Ser Gly Pro Leu Arg Glu
        340             345             350
```

```
Arg Gly Lys Thr Pro Ala Thr Pro Thr Ser Gln Phe Val Phe Ser Phe
        355             360             365
```

```
Pro Val Ser Val Gly Val His Ser Ala Pro Ser Ser Leu Pro Tyr Leu
    370             375             380
```

```
His Ser Pro Ile Thr Thr Ser Pro Ser Cys
385             390
```

<210> 828
<211> 453
<212> DNA
<213> Homo sapien

<400> 828
```
ggatcattta attgcatact ctatgaccac gcacatgtaa agccccttct gcaaaagaga    60
cctaaaccag atgagaagta ttattcatcc agcatatggg gaccaacatg tgatggcctc   120
gatcggattg ttgagcgctg tgacctgcct gaaatgcatg tgggtgattg gatgctcttt   180
gaaaacatgg gcgcttacac tgttgctgct gcctctacgt tcaatggctt ccagaggccg   240
acgatctact atgtgatgtc agggcctgcg tggcaactca tgcagcaatt ccagaacccc   300
```

```
gacttcccac ccgaagtaga ggaacaggat gccagcaccc tgcctgtgtc ttgtgcctgg       360
gagagtggga tgaaacgcca cagagcagcc tgtgcttcgg ctagtattaa tgtgtagata       420
gcactctggt agctgttaac tgcaagttta gct                                    453
```

<210> 829
<211> 452
<212> DNA
<213> Homo sapien

<400> 829
```
ctgggccacg aggacaccac cagcttggat cggcctcgcc gtgtggaata ctttgtagat       60
aagcaactcc aagtaaaggc tgtcacctgt gggccgtgga acacctacgt gtatgctgtg       120
gagaaaggga agagctgaca tgtgtacgta tatgtatatg caacacctgt gagaccccca       180
ttcaggtcaa ggaaaaccgt tgcctgcacc ccaagggccc catatttgcc cctccccatc       240
acagtcctgc ccttcaccct caagcacggt cctaaacttg tctgcacttt agaaacacct       300
ggagagcatt gaaaactctg ctgcctaagg tcagcatcaa tcaaaacaat gaaatcaatg       360
aaacaatgaa accagagctt ctaggtgtgt ggcctggata gtggtagatt caaagctcca       420
cccacctcat cccaggtaca tttgatgtgc ag                                     452
```

<210> 830
<211> 450
<212> DNA
<213> Homo sapien

<400> 830
```
ctgacccccc tttgtccaca gctaagatgg cagcagaatg ctatgtcact atatacagaa       60
acaagacaac ctgaagctaa atggatgccc cctgcagagt caacaggtcc agcctcacag       120
tgcacgccct gagctacagc ctctcccaaa aggcatcttc cccacagcct caacgccgag       180
caaggagcat caagggtttg tctcggttgt tttgttcttt ttacaaacta tagatatata       240
cagttgaaaa ctcaggattt ctagccaata accatagtta ccaccacctt acaaataaaa       300
agaaaatgcc agaaacatct ttaaatgcct tgtcacacca acagcaaagt gcacagagtg       360
aggagaacac gagagtgcct tttcatttta aaaatgtttg gaaatatgta caactttgat       420
acagtttcag ggtgctccag acacccatgg                                        450
```

<210> 831
<211> 395
<212> DNA
<213> Homo sapien

<400> 831
```
ctctaaaccc ctccacattc ccgcggtcct tcagactgcc cggagagcgc gctctgcctg       60
ccgcctgcct gcctgccact gagggttccc agcaccatga gggcctggat cttctttctc       120
ctttgcctgg ccgggagggc cttggcagcc cctcagcaag aagccctgcc tgatgagaca       180
gaggtggtgg aagaaactgt ggcagaggtg actgaggtat ctgtgggagc taatcctgtc       240
caggtggaag taggagaatt tgatgatggt gcagaggaaa ccgaagagga ggtggtggcg       300
gaaaatccct gccagaacca ccactgcaaa cacggcaagg tgtgcgagct ggatgagaac       360
aacacccccca tgtgcgtgtg ccaggacccc accag                                 395
```

<210> 832
<211> 291
<212> DNA
<213> Homo sapien

<400> 832

```
ctgactcttc catctgtgca ggttgactga ggtcattcct gagttgcagt atgttgagag    60
ggtaatattt ctgtcttctc taactcccca tactcccttg tcttccactc tccacttagg   120
agtttttgt gagttatgtc cttgttgctt ttgcctcttt ttctttctag ccttgattgt    180
gccagaagac aatgtcccta ttcacacact ctttctgctt ttctgtgggc aggaacatgg   240
aagggtgct gatggacgtg gactgtgaga gcgtctaccc cactgtgtag g             291
```

<210> 833
<211> 491
<212> DNA
<213> Homo sapien

<400> 833
```
ctgtagcttc tgtgggactt ccactgctca ggcgtcaggc tcaggtagct gctggccgcg    60
tacttgttgt tgctttgttt ggagggtgtg gtggtctcca ctcccgcctt gacggggctg   120
ctatctgcct tccaggccac tgtcacggct tccgggtaga agtcacttat gagacacacc   180
agtgtggcct tgttggcttg aagctcctca gaggagggcg ggaacagagt gaccgagggg   240
gcagccttgg gctgacctag gacggtcagc ttggtccctc cgccgaagac cacattattg   300
ccgtcccacg tctgacagta atagtcagcc tcatccatag cctgggtccc gctgatggtc   360
agagtggctg tgttcccaga gttggagcca gagaagcgct cagggatccc tgaagaccgc   420
ttattatctt gataaatgac taccacaggg gactggcctg gcttctgttg ataccaacaa   480
gcagatacct g                                                         491
```

<210> 834
<211> 308
<212> DNA
<213> Homo sapien

<400> 834
```
ctggtcgagg tccacgccgc ggtaggtgaa cttgcggaag gtccgcttct tcttctgctc    60
tacttctgcc gtgctggaga acatcgaact gaacaagaag agtatgtatt cccgtgtgcc   120
agagtgccag gtcaccacat actattatgt tgggttcgca tatttgatga tgcgtcgtta   180
ccaggatgcc atccgggtct cgccaacat cctcctctac atccagagga ccaagagcat    240
gttccagagg accacgtaca agtatgagat gattaacaag cagaatgagc agatgcatgc   300
gctgctgg                                                             308
```

<210> 835
<211> 472
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(472)
<223> n = A,T,C or G

<400> 835
```
ctgacatgtt aactgtgatg cataaaactc gatcttctga tggggagtaa gtgcagaagg    60
tagaaatctc cgccccgcgg gggcttatct gtactggtag ttcatgctgt ggtctgcgtt   120
tctgccatag ccgccttgtg aggactggta ggagctggga gggccactgt agttctggcc   180
ggaccccggg gagttgtagt tcgactgtga gtagcctcct tgtttgcctt ggtatgagga   240
gccgccccca gaacctccgc cgtagccccc gtgtgaccct gggttgtagg atgccccgcc   300
tgagccgtag ctgttccgc cgcttcggcc tccactacca ctgtagttga atttgctctc   360
gtagntgtag tcggatccgc ccccgccccc gggagagttg tngganttcg agtaggagta   420
gctgccttgt ccatggttat agcctttctg cttgccctgt ggagggccat ag           472
```

<210> 836
<211> 354
<212> DNA
<213> Homo sapien

<400> 836
ccagtgcaac cttcagatag acacatggtg accagagccc gccaggcttc tgcaggtggc   60
agtgtcgagc aagtgtaaga tgtctgtggg aaggagaagc tcctgaaatg aacgttctgc   120
aaacagaagg ctgaggggtc ttccaggcat gtccagtcac taggagctgc caccggtggg   180
cttgagtgcc aggctctagg ctttgtgcag aaagcacccg gggcggggggg cggtaaggga   240
gagcaaaatg ggtctctctc aactgcagtc agtgctcctg ggaacacggt ctcacagaca   300
gcacatattc tacgtcacag ctctagggtt tcaaggactt agccatccga cagg   354

<210> 837
<211> 318
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(318)
<223> n = A.T,C or G

<400> 837
ctgaaaatga aggtaattaa aaccatggag gcgatcagcg aggttctcca ggaccttagg   60
tttgatgcgg aatctgccga gtgatggcgg ctccccaggg atgcgccgag ggagatggga   120
aacggggcgg atggcgccca gcccagccct aactgccagc cacattgaag cggacattgg   180
caaccgggtc cccagccatg cgcagaaccg tgggtagcat gtgcttggtg gtgatgtcct   240
gcccacagac ctcagacggc acattgatgc agaagagcgt antcatgcgg tgcaggtagt   300
tggggtctcc ggacatgg   318

<210> 838
<211> 277
<212> DNA
<213> Homo sapien

<400> 838
ctgcgcgtcg ccaaagtgac aggcggtgcg gcctccaagc tctctaagat ccgagtcgtc   60
cggaaatcca ttgcccgtgt tctcacagtt attaaccaga ctcagaaaga aaacctcagg   120
aaattctaca agggcaagaa gtacaagccc ctggacctgc ggcctaagaa ggcacgtgcc   180
atgcgccgcc ggctcaacaa gcacgaggag aacctgaaga ccaagaagca gcagcggaag   240
gagcggctgt acccgctgcg gaagtacgcg gtcaagg   277

<210> 839
<211> 276
<212> DNA
<213> Homo sapien

<400> 839
ccaaggaatg caggctgtac tatctgcgaa atggagaacg tatttcagtg tcggcagcct   60
ccaagctgct gtccaacatg atgtgccagt accggggcat gggcctctct atgggcagta   120
tgatctgtgg ctgggataag aagggtcctg gactctacta cgtggatgaa catgggactc   180
ggctctcagg aaatatgttc tccacgggta gtgggaacac ttatgcctac ggggtcatgg   240

```
acagtggcta tcggcctaat cttagccctg aagagg                              276
```

<210> 840
<211> 453
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(453)
<223> n = A,T,C or G

<400> 840
```
ccttctttgc catgaccaag ctctttcagt ccaatgatcc cacactccgt cggatgtgct    60
acttgaccat caaggagatg tcttgcattg cagaggatgt catcattgtc accagcagcc   120
taacaaaaga catgactggg aaagaagaca actaccgggg cccggccgtg cgagccctct   180
gccagatcac tgatagcacc atgctgcagg ctattgagcg ctacatgaaa caagccattg   240
tggacaaggt gcccagtgtc tccagctctg ccctcgtgtc ttccttgcac ctgctgaagt   300
gcagctttga cgtggtcaag cgctgggtga atgaggctca ggaggcagca tccagtgata   360
acatcatggt ccagtaccac gcactanggc tcctgtacca tgtgcgtaag aatgaccgcc   420
tagccgtcaa taagatgatc agcaaggtcg cac                                453
```

<210> 841
<211> 142
<212> DNA
<213> Homo sapien

<400> 841
```
agcctctcta gtggcagagc agctcacact ccctccgctg ggaacgatgg cttctgccta    60
gtacctatcc ttgtgtttct gatgcagtgg tagcattggt tcaagttctc tcctgctgtg   120
gtcagagttg cttcgatgtt gg                                            142
```

<210> 842
<211> 83
<212> DNA
<213> Homo sapien

<400> 842
```
cctaaaagca gccaccaatt aagaaagcgt tcaagctcaa cacccactac ctaaaaaatc    60
ccaaacatat aactgaactc ccc                                           83
```

<210> 843
<211> 482
<212> DNA
<213> Homo sapien

<400> 843
```
ccatcggtgt ctggcagatg cggcacctca agagcttctt tgaagccaag aagcttgtgt    60
agctgtccca ggcgtcacaa cccatcctcc caggctgggg gagaaaggac ctcctggaac   120
tgacttcttc tgtcaggagg actggtttcc agccatacct gttctggaag ggagaggggc   180
tggaggcacc cacaggcaca agctgaaggc agcagcttgg ctaatactga gcaggtagtg   240
gggcaaattc ctgccctctc tctctggcct ctgggccgtt tggtagtaat cacccagggg   300
ctggtaaagc ccctcctctt ggcacctcag aatcacagtg ttactgatca gggatgtgag   360
gctgctgttg ggggtggggg gaggggaatg ggcaggcaag ccagtcttct gtcttccttt   420
```

```
gctaacttag ggttttgagc aggttggggg tatggtgcct gtcataccca cctgccaccc      480
tg                                                                      482


<210> 844
<211> 534
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(534)
<223> n = A,T,C or G

<400> 844
ccagattttt caagtttaaa ggaggaaact gcttattgga aggaactttc cttgaagtat       60
aagcaaagct tccaggaagc tcgggatgag ctagttgaat tccaggaagg aagcagagaa      120
ttagaagcag agttggaggc acaattagta caggctgaac aaagaaatag agacttgcag      180
gctgataacc aaagactgaa atatgaagcg gaggcattaa aggagaagct agagcatcaa      240
tatgcacaga gctataagca ggtctcagtg ttagaagatg atttaagtca gactcgggcc      300
attaaggagc agttgcataa gtatgtgaga gagctggagc aggccaacga cgacctggag      360
cgagccaaaa gggcaacaat agtttcactg gaagactttt gaacaaaggc taaaccaggc      420
cattgaacga aatgcatttt tagaaagttg aacttgatga aaaaggaatc tttgttggtc      480
tctgtacaga ggttnaagga tgaagcanga gatttaaggc aagaactagc agtt            534


<210> 845
<211> 175
<212> DNA
<213> Homo sapien

<400> 845
tcgacctgtg gcaaatgtgg ctaccctgcc aagcgcaaga gaaagtataa ctggagtgcc       60
aaggctaaaa gacgaaatac caccggaact ggtcggatga ggcacctaaa aattgtatac      120
cgcagattca ggcatggatt ccgtgaagga acaacaccta aacccaagag ggcag           175


<210> 846
<211> 179
<212> DNA
<213> Homo sapien

<400> 846
cgcgtggaca gttgcgaggg gtctgtgtga aggcacttgt cacgagcttc aatactgccg       60
ccgtcccagg atgggagaac tgcgcagcag gaagggcact tctgaaagca cagtggagag      120
atcgctggag cgggcgttct gggcaggagg aagcacagac ggcaggcagg gtggactgg       179


<210> 847
<211> 410
<212> DNA
<213> Homo sapien

<400> 847
ccaccaaaac cagtcacaag acctggagtt gtctgtgcag atgtacgccc aagccgccct       60
ggatggagac tcccagggat tttttaacct ggccctgcta atcgaggaag gtacgataat      120
cccacaccat atcttggatt tcttggaaat tgactcaact ctccattcta ataacatctc      180
cattctccag gaactgtacg aaaggtgctg gagccacagt aacgaggagt ccttcagccc      240
```

```
ctgctccttg gcctggcttt acctgcactt gcggcttctc tggggtgcta tcctgcactc      300
agccctgatc tactttctgg gaacctttct gctatccata ttgatcgcct ggactgtgca      360
gtatttccag tctgtctcag caagcgatcc ccctccaaga ccatcccagg                 410
```

<210> 848
<211> 557
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(557)
<223> n = A,T,C or G

<400> 848
```
cacgggcccc cagccctgtg tcggccttgt ctgtctcagc tcaaccacag tctgacacca       60
gagcccactt ccatcctctc tggtgtgagg cacagcgagg gcagcatctg gaggagctct      120
gcagcctcca cacctaccac gacctcccag ggctgggctc aggaaaaacc agccactgct      180
ttacaggaca gggggttgaa gctgagcccc gcctcacacc cacccccatg cactcaaaga      240
ttggatttta cagctacttg caattcaaaa ttcagaagaa taaaaaatgg gaacatacag      300
aactctaaaa gatagacatc agaaattgtt aagttaagct ttttcaaaaa accagcaatt      360
ccccagcgta gtcaagggtg gacactgcac gctctggcat gatgggatgg cgaccgggca      420
agctttcttc ctcgagatgc tctgctgctt gagagctatt gctttgttaa gatataaaaa      480
ggggtttctt tttgtctttc tgtaaggngg acttccagct tttgattgaa agtcctaggg      540
tgattctatt tctgctg                                                     557
```

<210> 849
<211> 525
<212> DNA
<213> Homo sapien

<400> 849
```
ctgatggttt ggaaatgaga gaactacagt ggtgaagaga ccaggaggca gctctcagtg       60
aaaccaacat tgcggatgcc cttcgtgagc cttctcagtc ccagcaggaa gcccacaaca      120
ctggcctccc cagcctgcct gctgacaaca cctaggctta ctttatctaa aatcagagtg      180
taccaggtct gtagcagaaa ataatcaact aaatgtcagg gacctatgag tcatttaaaa      240
caaaagagga agtgaaagcc attaggcaag ctatgtgctg ggctgctaac gtagcccctg      300
cagggagggg tcaggagcgc gctgcagtga gccttgggtc tcgcaggccc agccctgctg      360
caaggagcca gggcacccag gaaacatcag cacacacaca cacaggacc ctcccttcat       420
gtcacttgtt ttgctgccct aaatggcttc ttgcacccta acccctgatc ctggaagaag      480
gcagagagac tggcccgtac agagacctgc aattctacgc aagct                      525
```

<210> 850
<211> 384
<212> DNA
<213> Homo sapien

<400> 850
```
cctcttggag cacatccttt actgcattgt ggacagcgag tgtaagtcaa gggatgtgct       60
ccagagttac tttgacctcc tgggggagct gatgaagttc aacgttgatg cattcaagag      120
attcaataaa tatatcaaca ccgatgcaaa gttccaggta ttcctgaagc agatcaacag      180
ctccctggtg gactccaaca tgctggtgcg ctgtgtcact ctgtccctgg accgatttga      240
aaaccaggtg gatatgaaag ttgccgaggt actgtctgaa tgccgcctgc tcgcctacat      300
atcccaggtg cccacgcaga tgtccttcct cttccgcctc atcaacatca tccacgtgca      360
```

```
gacgctgacc caggagaacg tcag                                            384


<210> 851
<211> 423
<212> DNA
<213> Homo sapien


<400> 851
ctcaggaaaa accagccact gctttacagg acaggggggtt gaagctgagc cccgcctcac      60
acccaccccc atgcactcaa agattggatt ttacagctac ttgcaattca aaattcagaa     120
gaataaaaaa tgggaacata cagaactcta aaagatagac atcagaaatt gttaagttaa     180
gcttttttcaa aagatcagca attccccagc gtagtcaagg gtggacactg cacgctctgg     240
catgatggga tggcgaccgg gcaagctttc ttcctcgaga tgctctgctg cttgagagct     300
attgctttgt taagatataa aaaggggttt ctttttgtcc ttctgtaagg tggacttcca     360
gcttttgatt gaaagtccta gggtgattct atttctgctg tgatttatct gctgaaagct     420
cag                                                                   423


<210> 852
<211> 413
<212> DNA
<213> Homo sapien


<400> 852
ctgaaaacag tgggaggcca gatgctggca tcttccagac gggagcatag ccatggtcac      60
tctagccgat gtctcctggg gctctcaggc ggcaaggacc agatgcacca ctactgtcca     120
atcccagttt tacttagagc cacctccttt tttggggcca ttagtcctta tttcatgcca     180
gattttcact agcggctccc tgttcttcca aatcaattca tgaccgtaag taacatacca     240
tattccaaaa agagctcccc caagatgtgc cgcatgatca aaaaatttcc atcccaggat     300
cattcctgct gtatccatgg cgataatggc tttcagggca ttccctgctg tgaacgtgaa     360
catcggaagg aaaataatgg caagcctccc ttctgggatc ttagtgcaga cag           413


<210> 853
<211> 288
<212> DNA
<213> Homo sapien


<400> 853
atctgtgagt tctgagaggc atttaggcca tgggacaggg aggatcctgt ctggccttca      60
gtttccatcc ccaggatcca cttggtctgt gagatgctag aactcccttt caacagaatt     120
cacttgtggc tattagagct ggaggcaccc ttagccactt cattcccctg atgggccctg     180
actcttcccc ataatcactg accagccttg acactcccct tgcaaaccat cccagcactg     240
caccccaggc agccactcct agccttggcc tttggcatga gatggggg                  288


<210> 854
<211> 427
<212> DNA
<213> Homo sapien


<400> 854
ccaagtgaga tcagccctca agggcacatg ccaagggcag agcagcccat gtagacagct      60
tcggagggca tggggggtgta gggagttcgg ggtagctcct cattaactat ttgttgggtg     120
agtaaagggg tgaggctcag tggcaggtac ctctgcaatg acaagctgcc tcccctctat     180
gtgtttagca tatgttatta gaacgtgtcc gacacccta ccgctgccat ttgggccctt     240
taataaagcc aagtagagaa atctggcaat aaaaggcaaa tgtaagcatg ctttctttaa     300
```

```
gacgcatcat aaatggtttt ctttaagtga atggaagagt ttgacagaga tacacctttg    360
taagaaaaca ttaagaatgc tggctgactg tggtggctca cacctgtatt cccagcactt    420
tgggagg                                                                427
```

```
<210> 855
<211> 311
<212> DNA
<213> Homo sapien
```

```
<400> 855
ccagtattcc tggaggatat aacactgaca tcagcagggt tttcaatggc aacaattgca     60
cgagctgcca gcagaagctt ctcccaggtc ctcttgagat ttatgatata gatgccatca    120
cttttccttt tatagatgta ctgttccatc tggaagtcaa gattggtgcc acctaagtgg    180
gttcctgctg caaggaactt aaggacatcc tcctccttca tttgcaggac atcaagggct    240
ccggacattg tgaaagtttc cctttaagtt acgacgggaa tccagaacaa cgccgtatgg    300
acccctctgc a                                                          311
```

```
<210> 856
<211> 328
<212> DNA
<213> Homo sapien
```

```
<400> 856
cctatggaag tttggtgctt tgctccctgt gtttgcgaaa caggtatctc gtgatttcag     60
aaaagcttga ggagattaag tctttccggg agctgacctg cctggatctt tcctgttgca    120
agcttggaga tgagcatgaa cttctagaac atctcaccaa tgaagccctg tctagtgtaa    180
ctcagctcca cctgaaggat aattgtctat ctgatgctgg ggtgcggaag atgacagcac    240
cagttcgagt gatgaaaaga ggtatccaat gcctgcatct gtgatctcag ggttacatga    300
taagtctaat aatgttagat tctcaagg                                        328
```

```
<210> 857
<211> 502
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(502)
<223> n = A,T,C or G
```

```
<400> 857
ctgaccggac cggtcatgcc cgtccggaac gtctataaga aggagaaagc tcgagtcatc     60
actgaggaag agaagaattt caaagccttc gctagtctcc gtatggcccg tgccaacgcc    120
cggctcttcg gcatacgggc aaaaagagcc aaggaagccg cagaacagga tgttgaaaag    180
aaaaaataaa gccctcctgg ggacttggaa tcagtcggca gtcatgctgg gtctccacgt    240
ggtgtgtttc gtgggaacaa ctgggcctgg gatggggctt cactgctgtg acttcctcct    300
gccaggggat ttggggcttt cttgaaagac agtccaagcc ctggataatg ctttactttc    360
tgtgttgaag cactgttggt tgtttggtta gtgactgatg taaaacggtt ttcttgtggg    420
gaggttacag aggctgactt cagagtggac ttgtgttttt tcttttttaaa gangtaaggt    480
tgggctggtg ctcacagacc tc                                              502
```

```
<210> 858
<211> 411
<212> DNA
```

<213> Homo sapien

<400> 858
cggccgaggt ccttaatagt taagttacag ctaagaatgt catgtcttgg gttggaattt   60
tcatttttag caccgttaat gtattcactt aaatctatgt tagcaccttg tctccaggca   120
gaacaacaaa ccatccaaac attttaaaca ttgggggaaa cacgaagggg agggttaaag   180
acagaatcca gtactgtgga aggagtggat ttagatcaca agatccttgt cgatatcctt   240
ctgcttgatg ccgaagcagc cggcccactc atccagggcg atgtacttgt cattgtccag   300
gtcacaggtc tcgaaaaagc gggtggtgca atgctccatg gggatgaggg gagcacgcag   360
tggagccagc tcggtgtggg agaggtaccc gtcaatgggg tgctggtcca g   411

<210> 859
<211> 232
<212> DNA
<213> Homo sapien

<400> 859
aaatcacaga gggacttagt attccattaa tgcaaatgga aacattaagt tcatcatcag   60
atgataaaag gaaaaaaaaa acctgatact catctcaaaa gacgcagaga agacatctgc   120
ataaatccag tacctattat tatttcaaat ttaaaaactt cttctttttt aagagatagg   180
gtatcactat gttgcccagg ctgatcttga actcttggcc tcagatgatc ct   232

<210> 860
<211> 235
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(235)
<223> n = A,T,C or G

<400> 860
tgcccagaaa ggaaggggct attgcctcct cccagccacg ttccctttcc tcctctccct   60
cctgtggatt ctcccatcag ccatctggtt ctcctcttaa ggccagttga agatggtccc   120
ttacagcttc ccaagttagg ttagtgatgt gaaatgctcc tgtccctggc cctacctcct   180
tccctgtccc cacccctgca taaggcagtt gttggttttc ttccccaatn ctttt   235

<210> 861
<211> 457
<212> DNA
<213> Homo sapien

<400> 861
ccaaaggaaa gttggaaggc aactgacaga ttctgccttt taggtacttg aactggcagg   60
aaatgcatca aaagacttaa aggtaaagcg tattacccct cgtcacttgc aacttgctat   120
tcgtggagat gaagaattgg attctctcat caaggctaca attgctggtg gtggtatgtt   180
aacttctaac attttaaaaa atttcttcag aggaaggaat tttttgctgc ttttaattag   240
ttttccagg agaggaaatt taagtatatt ttcaatgatg gaagtatggt tgtatcatga   300
aatttgattt atatgtataa ctcaatgaat ttttacctca tacttgagct gcatgttttt   360
aaagatacct ttcaagttga acagtataca ctttcttggt ttcaaatact gtgatttttt   420
aaaaaatctt aagtagaatt aattcctgtc actcccc   457

<210> 862

<211> 561
<212> DNA
<213> Homo sapien

<400> 862
```
ccaggtcatc accattggca atgagcggtt ccggtgtccg gaggcgctgt tccagccttc       60
cttcctgggt atggaatctt gcggcatcca cgagaccacc ttcaactcca tcatgaagtg      120
tgacgtggac atccgcaaag acctgtacgc caacacggtg ctgtcgggcg gcaccaccat      180
gtatccgggc attgccgaca ggatgcagaa ggagatcacc gccctggcgc ccagcaccat      240
gaagatcaag atcatcgcac ccccagagcg caagtactcg gtgtggatcg gtggctccat      300
cctggcctca ctgtccacct tccagcagat gtggattagc aagcaggagt acgacgagtc      360
gggcccctcc atcgtccacc gcaaatgctt ctaaacggac tcagcagatg cgtagcattt      420
gctgcatggg ttaattgaga atagaaattt gcccctggca aatgcacaca cctcatgcta      480
gcctcacgaa actggaataa gccctcgaaa agaaattgtc cttgaagctt gtatctgata      540
tcagcactgg attgtagaac t                                                561
```

<210> 863
<211> 291
<212> DNA
<213> Homo sapien

<400> 863
```
ccatagctgt cccacctatg gttttaaaaa cagactgtaa cttgatcttc tgaaatcctt       60
ctcgaaccac aactcgttct gttaaagaaa tcctaggaaa gaagtcctac tgatattgtc      120
gatagtctcc aaaaggtgag gaaggtaact gagttgaagg caactgggag gggtcttctg      180
caaactgagg accattggaa aactgtgcag aggcaaatct tgtcaacaag ataccagctc      240
cttcaattaa agctaggaga atgccaccca ttgcggctga cccaaccatg g              291
```

<210> 864
<211> 265
<212> DNA
<213> Homo sapien

<400> 864
```
ctgaactttt ccacctggag tccttgggaa taccggacgt gatcttcttt tataggtcca       60
atgatgtgac ccagtcctgc agttctggga gatcaaccac catccgcgtc aggtgcagtc      120
cacagaaaac tgtccctgga ggtttgctgc tgccaggaac gtgctcagat gggacctgtg      180
atggctgcaa cttccacttc ctgtgggaga gcgcggctgc ttgcccgctc tgctcagtgg      240
ctgactacca tgctatcgtc agcag                                           265
```

<210> 865
<211> 144
<212> DNA
<213> Homo sapien

<400> 865
```
cctccacctg cgttttgatc tagatgagca tattgtccat ctcccacagc ttgctccggt       60
tccgcaggta cgcccgcccg tgctcgcgcg tcagcgacgc gatgtcctcg cgcatctcgt      120
tgatgaccgg gagcagaaac tgct                                            144
```

<210> 866
<211> 241
<212> DNA
<213> Homo sapien

<400> 866
```
ctggctgtaa gtagcttcat agcaccagtc tttgagaatg tcaagctctc cagaaatcat        60
ggcctccagg acattgggga tgatgtcgtt ctcgcactgt ttcagaaacc ggtccttgtc       120
aaaggccggg tccacccgga ggatctccgt gagcacctcc gacatctctg tcttggagaa       180
caggcccccc agcaagtcgg tgaccttgtc cgtaagggcc cgggatgccc ggatgaacgc       240
g                                                                       241
```

<210> 867
<211> 364
<212> DNA
<213> Homo sapien

<400> 867
```
cctgggcccg ctgacttcag ggtgaggcca cagctactgc agcgcttttt atttatttat        60
ttatttactg agatggagtc ttgctctgtc acccaggctg gagtgcagtg gtgcaatctc       120
ggctcactgc aacctctgcc tcctgggctg cagtgattct cctgcgttca agtaattctc       180
ctgcctcggc cttctgagta gttgggatta caggcatatg ccaccacact tggctaattt       240
ttcgtatttt tagtagaaat ggggtttcac catgttggcg aggctggtct cgaactcctg       300
acctcaagga tcctcctgcc tcggcctcct aaggtgctgg gattgcaggt gtgagccacc       360
acgt                                                                    364
```

<210> 868
<211> 472
<212> DNA
<213> Homo sapien

<400> 868
```
ccaccagtcc acagatgtga ctggtaaggg atctagtaac agaggatgga gttgggcaga        60
atattatcct ggatgatatg cacccagcac taggatacac ctttcattag aatgaagaga       120
acagacaaag ccctcagaaa agatacaaag gcagagacat tgattagaac attatctcat       180
aacagaggtg gggccattac ccaccattat tgtaaaataa ctgtaactaa ccaaaacaca       240
tacaggcttc tttaatggag ttaataaaac tatggcacat tgggaatcag gggcagaggt       300
actgttccca gacggaaaac tgggataaag ggagccatgc tgacagggcc ttattccagt       360
ctaggttgtt agaaaggagc cctagcccag aaatgacagc aaatagccat aatcattatg       420
tggggctgaa ccagaggaag ccaggctgag ccaagaagct ggaagtatct tg               472
```

<210> 869
<211> 368
<212> DNA
<213> Homo sapien

<400> 869
```
cctttcttgt aagtgaagaa aaaggaatgc agcaaagaag agttcgacat tggagtcctt        60
agttccatca ggatcccatt cgcagccttt agcatcatgt agaagcaaac tgcacctatg       120
gctgagatag gtgcaatgac ctacaagatt ttgtgttttc tagctgtcca ggaaaagcca       180
tcttcagtct tgctgacagt caaagagcaa gtgaaaccat ttccagccta aactacataa       240
aagcagccga accaatgatt aaagacctct aaggctccat aatcatcatt aaatatgccc       300
aaactcattg tgactttta ttttatatac aggattaaaa tcaacattaa atcatcttat       360
ttacatgg                                                                368
```

<210> 870
<211> 411
<212> DNA

<213> Homo sapien

<400> 870
```
ggcgtgtcct tggacttaga gagtgggggac gtccggcttc ggagcgggag tgttcgttgt      60
gccagcgact aaaaagagaa ttaaatatgg gtgatgttga gaaaggcaag aagatttta      120
ttatgaagtg ttcccagtgc cacaccgttg aaaagggagg caagcacaag actgggccaa     180
atctccatgg tctctttggg cgggagacag gtcaggcccc tggatactct tacacagccg      240
ccaataagaa caaaggcatc atctggggag aggatacact gatggagtat ttggagaatc      300
ccaagaagta catccctgga acaaaaatga tctttgtcgg cattaagaag aaggaagaaa      360
gggcagactt aatagcttat ctcaaaaaag ctactaatga gtaataattg g                411
```

<210> 871
<211> 385
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(385)
<223> n = A,T,C or G

<400> 871
```
tttttttttt ttnnnttttt tttttttnaaa gattcacttt atttattcat tctcctccaa      60
cattagcata attaaagcca aggaggagga gggggggtga ggtgaaanat ganctggagg      120
accgcaatag gggtaggtcc cctgtggaaa aagggtcana ggccaaagga tgggaggggg     180
tcaggctgga actgagganc aggtgggggc acttntccct ntaacactnt ccctgttga      240
agctntttgt gacgggcnan ctcaggccct gatgggngac ttcncaggcg tanactttgt      300
gtttctcgna ntctgctttg ctcancgtca gggtgctgnt gaggctgtan ggtgctgtcc      360
ttgctgtcct gctntgngac actct                                          385
```

<210> 872
<211> 184
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(184)
<223> n = A,T,C or G

<400> 872
```
cttccttcgg tctttantat ttttgattgt tatgtaaaac tcgcttttat tttaatattg      60
atgtcagtat ttcaactgct gtaaaattat aaacttttat acttgggtaa gtcccccagg     120
ggcgagttcc tcgctctggg atgcaggcat gcttctcacc gtgcagagct gcacttggcc      180
tcag                                                                  184
```

<210> 873
<211> 397
<212> DNA
<213> Homo sapien

<400> 873
```
ctgtgggctc tgaatggcgt ccctttggct atccacgccg ccggcgacca ctgaattctg      60
tggttctaca acagggtctg gctgaccgaa ttgtcagaga cgtccaggaa ttcatcgata     120
```

```
acccccaagtg gtacactgac agaggcattc cttacagacg tggctacctg ctttatgggc      180
cccctggttg cggaaagagc agttttatca cagccctggc tggggaactg gagcacagca      240
tctgcctgct gagcctcacg gactccagcc tctctgatga ccgactcaac cacctgctga      300
gcgtggcccc gcagcagagc ctggtactcc tggaggatgt ggatgctgct tttctcagtc      360
gagacttggc tgtggagaac ccagtaaagt accaagg                               397
```

<210> 874
<211> 156
<212> DNA
<213> Homo sapien

<400> 874
```
ccagaagaac actatgccat ggttgcactg aattttgtgc ctactctagg gcaaacagaa       60
ttacaatcga aggagttcct atctatctgt aaagaagaga acatgaaatt ctgttggcag      120
aagcagcatt ttgaagaaat aaaaggttca ctgcag                                156
```

<210> 875
<211> 512
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(512)
<223> n = A,T,C or G

<400> 875
```
ccagcatagc gaaaacttgt ctctactaaa aatacaaaaa ttagtcaggc atggtggtgc       60
acgtctgtaa taccagcttc tcaggaggct gaggcacgag gatcacttga acccaggagg      120
aggaggttgc agtgagctga gatcatgcca gggcaacaga atgagacttt gtttaaaaaa      180
aaaaaaagtg acttgattta agggaaaaaa tgactggcta tattcagtca gatatggcaa      240
agagtctcaa ggtgttaatg tgaatgatta aggtcttggg gggggtgtcc cctatcagac      300
tacaggtgtt tagaggcaca gaaaaaggtg cagttgggtt cttaatgtga aatgatgaga      360
agcacaactc cagtgtgtct ctttgtgtag aatgtcagca gacacccct gctagatgtg       420
ctggatcatg ggaaagcatt tccatttgtt aatagattgt tcagaagttt taatttatga      480
tgggtgtggt ggctcatgcc tgtngtccca gc                                    512
```

<210> 876
<211> 199
<212> DNA
<213> Homo sapien

<400> 876
```
cctgtgccgg gccccagggc tggcagccac cagctcctct tccaggcatg ggggacaccc       60
tgacaggatc cggaagtctc catttaccca aaaatgcaag agccatgatc agtcatggcg      120
acactgcagg cggtactgag tgaccatgtc cagtccggct ccgtccctcc cacacggggg      180
acaagcttct ccgaggagg                                                   199
```

<210> 877
<211> 486
<212> DNA
<213> Homo sapien

<400> 877

```
cgcgtgtgct gctcccttct gccaggagcc cactgctttt gcacacaagc tgcattttgc          60
gcattgactc aggtcccagt tgctcttcat atctccgtga atgattggag tgcaaagata         120
ctgttctgag cgcttcccgt tttctgaaag ccatgtctct caggcatgcc tcgcttagtt         180
ggcgatgggg ttggttgact gttttcgctt ttttcttctt ctcttttctt cttcttcttc         240
tttttttttc ttttcctttt ctccccctcc caacgccact gacaagaaag cactaaagat         300
gcaggttgtg cgatcaccct ataacataag gaaaagaaca ggagaggtta atttgaacgt         360
gtaggctagt ggtagaggga gatggaggtc tggggaaaga gtctgtcagg tagacatctc         420
ttttaacatg tcccagtatt cggttcacca gtatctctgc acctcactac taccctcac         480
tccttg                                                                     486
```

<210> 878
<211> 363
<212> DNA
<213> Homo sapien

<400> 878
```
cctgggcccg ctgacttcag ggtgaggcca cagctactgc agcgcttttt atttatttat          60
ttactgagat ggagtcttgc tctgtcaccc aggctggagt gcagtggtgc aatctcggct         120
cactgcaacc tctgcctcct gggctgcagt gattctcctg cgttcaagta attctcctgc         180
ctcggccttc tgagtagttg ggattacagg catatgccac cacacttggc taattttgt          240
attttagta gaaatggggt ttcaccatgt tggcgaggct ggtctcgaac tcctgacctc         300
aaggatcctc ctgcctcggc ctcctaaggt gctgggattg caggtgtgag ccaccacgtc         360
tgg                                                                        363
```

<210> 879
<211> 365
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(365)
<223> n = A,T,C or G

<400> 879
```
gcccatgcca gcgtgtggtc agcacgcaca acttgtggct gctgtccttc ctgaggaggt          60
ggaatgggag cacagccatc acagacgata ccctgggtgg cactctcacc attacgctgc         120
ggaatctaca accccatgat gcgggtctct accagtgcca gagcctccat ggcagtgagg         180
ctgacaccct caggaaggtc ctggtggagg tgctggcaga ccccctggat caccggaatg         240
ctggagatct ctggttcccc ggggagtctg agagcttcga ggatgcccat atggagcaca         300
gcatctccag gagcctcttg gaaggagaaa tccccttccc acccacttcc atccttntcc         360
tcctg                                                                      365
```

<210> 880
<211> 431
<212> DNA
<213> Homo sapien

<400> 880
```
ccatctcccc tcaccccaac ctggataaaa tgttacacta cccactaata taaccactga          60
cacacaaacc aagctccttc cagtttaaca ttgaacatca atctacattt ccagtgaatg         120
agctaaactt atgagcaggc cattcaactt ttcatgatac atttagtgct cagaaatggt         180
tgattccatt agcctgccct atagctcagg tggcccaaga tggagcctat catcttcctt         240
ggggtgtttg gtgtttccaa gtaggagcat aaaaaggata ccgtcccta ccccaccacc         300
```

```
ccatcccaca taccctcact ggcatccagg agaccagcag caggctcaag accccaaatg    360
ttgggcacca caaataatgt gatatgtgcc aggagcacgg ggggtagggg tgaaagagaa    420
aaacaataag g                                                         431
```

<210> 881
<211> 335
<212> DNA
<213> Homo sapien

<400> 881
```
ccacagaggt ggtattacaa aatatacaaa gtggtttctt tctttacatt tcatagaaga     60
agcctgcctc atttccaaat gagagcacta gaagcacaaa tcatgcagac catttactat    120
ataacttatg aaaaatgctg tacagggctg tgactataga tatagagtat ttggctctgt    180
ttgggaattg atatctacaa gggggagggt caggggagga ctgtctgata tcctgacttg    240
ctgggatggt ggagaagctg ggatggggga ggccccaatc ttgctgcacg gctacaccca    300
ctcctccttt cctagataag gctggagcgc actgg                               335
```

<210> 882
<211> 353
<212> DNA
<213> Homo sapien

<400> 882
```
atgcactcaa agattggatt ttacagctac ttgcaattca aaattcagaa gaataaaaaa     60
tgggaacata cagaactcta aaagatagac atcagaaatt gttaagttaa gctttttcaa    120
aaaatcagca attccccagc gtagtcaagg gtggacactg cacgctctgg catgatggga    180
tggcgaccgg gcaagctttc ttcctcgaga tgctctgctg cttgagagct attgctttgt    240
taagatataa aaaggggttt cttttttgtct ttctgtaagg tggacttcca gcttttgatt    300
gaaagtccta gggtgattct atttctgctg tgatttatct gctgaaagct cag           353
```

<210> 883
<211> 193
<212> DNA
<213> Homo sapien

<400> 883
```
ctggcagaga agaatggcta cgtgactgtc agtgagatca aagccagtct taaatgggag     60
accgagcgag cgcggcaagt gccggaacac ctgctgaagg aagggttggc gtggctggac    120
ttacaggccc caggggaggc ccactactgg ctgccagctc tcctcactga cctctactcc    180
caggagatta cag                                                       193
```

<210> 884
<211> 461
<212> DNA
<213> Homo sapien

<400> 884
```
ctgaagaacc ccatcagcgg gctgttagaa tatgcccagt tcgctagtca aacctgtgag     60
ttcaacatga tagagcagag tggaccaccc catgaacctc ggtaagagac cacccaggaa    120
ctgtacctag ggttggggtc aggtgctttt gctcctgacg cagtcttggc tgatttgtga    180
gcagtgctgt ttggtggcgc ctatcttttc ctccttccct tctgcctttt agctaaattc    240
cccttgattg gccctttctc cagatattga gcagggaata tagaccttgg accagccaga    300
atcttggctg aacaaggggg aggttgactc tgttggctgt aatgaagctt ctttagaaat    360
gattggtttt ggccgtacgc ggtggctcat gcctgtaatc ccagcacttt ttgaggccga    420
```

```
ggcaggcata tcacgaggtc aggagtttga gaccagcctg g                      461
```

<210> 885
<211> 266
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(266)
<223> n = A,T,C or G

<400> 885
```
ctgcaatgct tcancacact tcagcaccga ggctgggcat gaggggtccg tcaccaccac    60
atcaaatacc cctaaagcaa tatctttgtt atgggcactt gaatggtgct gcttcacaga   120
ggctgcacca ccagtcatga ggatctcaga ccagagctcc aggaagttct gctgttggtc   180
tgataccaag agtaccttca gattctggaa aggattttca cggggttgcc agtccagaat   240
tctttgctcc tcaaggctgt acccag                                       266
```

<210> 886
<211> 402
<212> DNA
<213> Homo sapien

<400> 886
```
cgcgtggttt ccgattgttt gatagtattt actggagaga tcatagaaac gactgtgaac    60
cgatgtcaca ccaggaaggt tgttgagcat ttcttcaaca tcttcaattg tttcctttgt   120
aacctgtagg tccccgatgt ttaattttag agctccaatt gctgttttac acaggatcac   180
tgcctcatca ttacttttca ccttctcacg agtctttttcc agaaaagtaa gagccacatt   240
aggatcagtc atctgtctaa ctacatgaag aatgatttcc acgagggaca aagggttcac   300
cctgtgttca aattcactga taaagttttc ataaagctta atgagaccat ctccttgggc   360
aaagcacgga tcctgcacaa aatcaagcac ctgaagtgtc ag                      402
```

<210> 887
<211> 342
<212> DNA
<213> Homo sapien

<400> 887
```
ccaaagcgag agcattggca gtgaattgca gacactcttc cttggtcatg ccttcccggt    60
aggtagcatc aacatagcca tagatgtagg agctcccgga gcctccaatg gcaaaggact   120
gccttaccat catacccccc ataggcactg agtacacctg ccctccttct tgagggtccc   180
agcctgcgat gatgattccc gccatcaggt cttccggta tcggtaacac atctccttaa    240
agaggctggc tgctgtgtgg accagtggag gctcattcag ttcaatgctg tggaaaccga   300
gctggtaggt gacagcatca gctactgcct gggtatcagc ag                      342
```

<210> 888
<211> 228
<212> DNA
<213> Homo sapien

<400> 888
```
cgcgtcggcc aaggctgctg ctgttgctcc tccaaagaag gttggcttca aggccgtgtc    60
cagggaccca cgagcagagg cactgggggg caaggatct ccaagggggc aagggatccc    120
```

```
taaaggggggt agctcacagg tgaggggggtt tagggccccct ctagggagcg cctgaggcca    180
tacattcaag agtgtccctg gtgaggccca gggaagagcc aggactgg                   228
```

<210> 889
<211> 378
<212> DNA
<213> Homo sapien

<400> 889
```
ttggctttc tccccttctc atcctcctct cccctttcct cactgaaggc tgtgagttgc     60
tttcaatgtg acaacactat gatgtcattt ggaaggattt gccaggacag actgattctg    120
agtcctgggt gccgtatgtg tatgcggcag tgttgtcagg cgatcttgtt tgaagctcta    180
tgttgccata attaccatca agtacacact gttggcaaaa ggctaacacc tgactttagg    240
aaatgctgat ttgagaacaa aaggaaaggt ctttttttcac tgcttaaagt ggggtcactt   300
tgatacctttt gcggtcatgt ctgtgtctga tgagtgtaga atctctggat gtgcactgtc    360
agtcatgtgt ccaccagg                                                   378
```

<210> 890
<211> 215
<212> DNA
<213> Homo sapien

<400> 890
```
ccattttgga gtgtgtccat tgggtagcaa tgtggaaacc accagggcct ttgtggagaa     60
aatggagggg gttgagggag tcccaggagg ggcttatttg agggcctttg ccacttgctc    120
ataggcgagc tcgatctcct catcatctgg acaggtggaa gcgaattctt cccgggcgta    180
ggcattgctc aagtaccgat gcactccccg gaagg                                215
```

<210> 891
<211> 412
<212> DNA
<213> Homo sapien

<400> 891
```
ctggtcaagt tcaacagagc cttggctgac cattctatgg ctcaggcacc tcggctcatt     60
gatggcattg ttcttaccaa atttgatacc attgatgaca aggtgggagc tgctatttct    120
atgacgtaca tcacaagcaa acccatcgtc tttgtgggca ccggccagac ctactgtgac    180
ctacgcagcc tcaatgccaa ggctgtggtg gctgccctca tgaaggctta acgtggctct    240
tgcccaatac caaatcgccg ctttccccac aagcccttct tcctgtatca agaatgtgct    300
ttagagtatg tgagcaacct gtcttcagtg tagtacaaag gcagagtgag ggggcttgtg    360
gctccttcca accccactcc ccgttcagca cagccgccat ctgcaaggaa gg             412
```

<210> 892
<211> 472
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(472)
<223> n = A,T,C or G

<400> 892
```
ttttttttt ttttttttt ttaattacta cctttttattc taatgtgaac catggccctg     60
```

```
aaagctgata acaagcttgg ctgancagag ggaactaggg gtcggcagaa aggattatgg      120
gtggaaaaca ttggctcttc cttggggagt gatgctgggg aaagggaana nagtggctca      180
ncctgcaggt aaataggcta naaaagccaa ggccaaaggc tggaggggag aggacagtca      240
gcatgtccag cctggggtct gggtgtaggg ttatcccttc tccctgtgcc ttcccatctc      300
gtccatgagc ctaggtcttg gagccttgtg ttggaggctg ctgtgatgtc aggaacgggg      360
atctgtctag cttttggcca cttcctggga cctcacgccc ctgttgacag atggagattg      420
ggcagcaggg ccttgctgcg ttgttatctg ctgttccgac ttggtttgtc tt             472
```

<210> 893
<211> 477
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(477)
<223> n = A,T,C or G

<400> 893
```
caaagattca ctttatttat tcattctcct ccaacattag cataattaaa gccaaggagg       60
aggagggggg tgaggtgaaa gatgagctgg aggaccgcaa taggggtagg tcccctgtgg      120
aaaaagggtc agaggccaaa ggatgggagg gggtcaggct ggaactgagg agcaggtggg      180
ggcacttctc cctctaacac tctcccctgt tgaagctctt tgtgacgggc gagctcaggc      240
cctgatgggt gacttcgcag gcgtagactt tgtgtttctc gtagtctgct ttgctcagcg      300
tcagggtgct gctgaggctg taggtgctgt ccttgctgtc ctgctctgtg acactctcct      360
gggagttacc cgattggagg gcgttatcca ccttccactg tactttggcc tctctgggat      420
agaagttatt cagcangcac acaacanang cagtttccag atttcaactg ctcatca        477
```

<210> 894
<211> 289
<212> DNA
<213> Homo sapien

<400> 894
```
ctgtcttatg gctatgatga gaaatcaacc ggaggaattt ccgtgcctgg ccccatgggt       60
ccctctggtc ctcgtggtct ccctggcccc cctggtgcac ctggtcccca aggcttccaa      120
ggtccccctg gtgagcctgg cgagcctgga gcttcaggtc ccatgggtcc ccgaggtccc      180
ccaggtcccc ctggaaagaa tggagatgat ggggaagctg gaaaacctgg tcgtcctggt      240
gagcgtgggc ctcctgggcc tcagagtgct cgaggattgc cggaacag                  289
```

<210> 895
<211> 179
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(179)
<223> n = A,T,C or G

<400> 895
```
ctggatgggt ccanacaaag tggaatccct ggaaccttta actgagcagt gaaggtcagt       60
gcctcagagc ctgagagatg aacaggacca gagagagagg tgggcaggca ggcacaaggt      120
tatgtcttcc tcagactcgg aaccctgctc ttctccacca tccagacgtt cagctacag      179
```

```
<210> 896
<211> 557
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(557)
<223> n = A,T,C or G

<400> 896
ccactcactg ctgggaccca ggcacctccc ttctccatcc tctctggatt gtcagtaatg      60
tcctggaaca gaagcctgtg ggatggcctt gggcacggag aagccctggg gtcagtgtcg     120
tgcacggatg gcggcagtgt tgaacccagg aggctgaacc cggcccacca cggaagatga     180
gtgcatggca accgcctgcc ttcacgtcgc tccacttggt aaccccaagg tctgggctgt     240
tctaggtatt gcttcacgtg ccccagcaag cccttaacaa gagggcctgg ttccctgaag     300
aaccaatccc aggaaggggc cttgatccct ccgccttgct gagagtgaac cctcgtctct     360
cctcacnctc catttcattt ctgggaattg gggcttagtt tcgaaccttt ggcaaggctg     420
ttcttactaa tgcccaagcc cctttacccc tctccctata ggttacacag gggagaccag     480
ggcctcggca gaagactgct gccacacttc cgaatcattc tgcttgccaa ataggtcatc     540
ttcaccagtt gactgac                                                    557


<210> 897
<211> 495
<212> DNA
<213> Homo sapien

<400> 897
ctggaatctc ctttgcaatc ccatctgata agattaaaaa gttcctcacg gagtcccatg      60
accgacaggc caaaggaaga gccatcacca agaagaagta tattggtatc cgaatgatgt     120
cactcacgtc cagcaaagcc aaagagctga aggaccggca ccgggacttc ccagacgtga     180
tctcaggagc gtatataatt gaagtaattc ctgataccCC agcagaagct ggtggtctca     240
aggaaaacga cgtcataatc agcatcaatg acagtccgt ggtctccgcc aatgatgtca     300
gcgacgtcat taaaagggaa agcaccctga acatggtggt ccgcaggggt aatgaagata     360
tcatgatcac agtgattccc gaagaaattg acccataggc agaggcatga gctggacttc     420
atgtttccct caaagactct cccgtggatg acggatgagg actctgggct gctggaatag     480
gacactcaag acttt                                                      495


<210> 898
<211> 406
<212> DNA
<213> Homo sapien

<400> 898
ccacgactgc atgcccgcgc ccgccaggtg atacctccgc cggtgaccca ggggctctgc      60
gacacaggga gtctgcatgt ctaagtgcta gacatgctca gctttgtgga tacgcggact     120
ttgttgctgc ttgcagtaac cttatgccta gcaacatgcc aatctttaca agaggaaacc     180
gtaagaaagg gcccagccgg agatagagga ccacgtggag aaaggggtcc accaggcccc     240
ccaggcagag atggtgaaga tggtcccaca ggccctcctg gtccacctgg tcctcctggc     300
ccccctggtc tcggtgggaa ctttgctgct cagtatgacg gaaaaggagt tggacttggc     360
cccggaccaa tgggcttaat gggacctaga ggcccacctg gtgcag                    406


<210> 899
```

```
<211> 277
<212> DNA
<213> Homo sapien

<400> 899
cctaagagtc attaaaaaat tctcccctttg taacctcagt gctggggact gaggcgagcc        60
ccctcaggtc gctggagtgc accagtcttg gggaagaggt gcaggagaag ctgtgttttt       120
tatctccaca cgcagtatga agataaaatt acatagtatt acctagacat agacagtatt       180
acctaggtag atgcactgct cacctgcacc cttcccagct ctcatttttg ttaggtgatt       240
tgggataggg atagtgtttt ggggtatggg gggagtg                               277


<210> 900
<211> 389
<212> DNA
<213> Homo sapien

<400> 900
ctgttttgaa atatttactg ttattaaaac ttgcttcaag ggaaattgtg aatatatttc        60
catatacaag cactagtaac agtaagtggc cctgtcatcc actaactcag gcaaagtaaa       120
gaatggcatt tttgaaggac attttacctc cccatatgat ttgattggct aggactttct       180
tctgtaaagt catacctttt cacatcttaa gtttttacat ttgccatttt ccaaatctca       240
attttgggca agaacgatat agtcacaact atggggctgc tttcaaaagc ggggctccat       300
ttctactgtc agatcaatgt ggtgctgtaa ccatcttttt atccctacct tcaagaacct       360
ccttatatga agcctgtctt tatccatca                                        389


<210> 901
<211> 453
<212> DNA
<213> Homo sapien

<400> 901
ctggagacac ccacttgggt ggagaagatt ttgacaaccg aatggtcaac catttttattg        60
ctgagtttaa gcgcaagcat aagaaggaca tcagtgagaa caagagagct gtaagacgcc       120
tccgtactgc ttgtgaacgt gctaagcgta ccctctcttc cagcacccag gccagtattg       180
agatcgattc tctctatgaa ggaatcgact tctatacctc cattacccgt gcccgatttg       240
aagaactgaa tgctgacctg ttccgtggca ccctggaccc agtagagaaa gcccttcgag       300
atgccaaact agacaagtca cagattcatg atattgtcct ggttggtggt tctactcgta       360
tccccaagat tcagaagctt ctccaagact tcttcaatgg aaaagaactg aataagagca       420
tcaaccctga tgaagctgtt gcttatggtg cag                                   453


<210> 902
<211> 293
<212> DNA
<213> Homo sapien

<400> 902
cctccggccg cccccacggc tcccatggcc tcttcctgcg ctaccgtgtg gaggccctaa        60
ccctgcgtgg catcaatagc ttccgccagt acaagtatga cctggtggca gtgggcaagg       120
ctttggaggg catgttccgc aagctcaacc acctcctgga gcgcctgcac cagtccttct       180
tcctctactt gctccccggc ctctcccgct tcgtctccat tggcctctac atgcccgctg       240
tcggcttctt gctcctggtc cttggtctca aggctctgga actgtggatg cag              293


<210> 903
<211> 228
```

```
<212> DNA
<213> Homo sapien

<400> 903
ctggagactc tgggccagga gaagctgaag ctggaggcgg agcttggcaa catgcagggg      60
ctggtggagg acttcaagaa caagtatgag gatgagatca ataagcgtac agagatggag     120
aacgaatttg tcctcatcaa gaaggatgtg gatgaagctt acatgaacaa ggtagagctg     180
gagtctcgcc tggaagggct gaccgacgag atcaacttcc tcaggcag                  228


<210> 904
<211> 388
<212> DNA
<213> Homo sapien

<400> 904
ccaagcgctc agatcggcaa ggggcaccag tcttgatctg cccagtgcac agccccacaa      60
ccaggtcagc gatgaaggta tcttcagtct cccccgaacg atgaggcacc atgacgcccc     120
aaccattggc ctgggccagc ttgcacgcct gaagagactc ggtcacggag ccaatctggt     180
tgactttgag caggaggcag ttgcaggact tctcgttcac ggccttggcg atcctctttg     240
ggttggtcac tgtgagatca tcccccacta cctggattcc tgcactggct gtgaacttct     300
gccaagctcc ccagtcatcc tggtcaaagg gatcttcgat agacaccact gggtagtcct     360
tgatgaagga cttgtacagg tcagccag                                        388


<210> 905
<211> 272
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(272)
<223> n = A,T,C or G

<400> 905
ccggagccca cggnggtcat ggctgccaga gcgctctgca tgctgggggct ggtcctggcc     60
ttgctgtcct ccagctctgc tgaggagtac gtgggcctgt ctgcaaacca gtgtgccgtg     120
ccagccaagg acagggtgga ctgcggctac ccccatgtca cccccaagga gtgcaacaac     180
cggggctgct gctttgactc caggatccct ggagtgcctt ggtgtttcaa gcccctgcag     240
gaagcagaat gcaccttctg aggcacctcc ag                                   272


<210> 906
<211> 525
<212> DNA
<213> Homo sapien

<400> 906
ctgtgcaccc gagtgtcctt tcccccctaa gctggcacat aggagcaaaa gttcactaac      60
cctgcagtgg aaggcaccaa ttgacaacgg ttcaaaaatc accaactacc ttttagagtg     120
ggatgaggga aaagaaatag tggtttcaga cagtgcttct tcgggagcca gaagcactgc     180
aagttgacaa agctttgtcc ggcaatgggg tacacattca ggctggccgc tcgaaacgac     240
attggtacca gtggttatag ccaagaggtg gtgtgctaca cattaggaaa tatccctcag     300
atgccttctg caccaaggct ggttcgagct ggcatcacat gggtcacgtt gcagtggagt     360
aagccagaag ctgttcaccc cgaggaagtg atcacctaca ccttggaaat tcaggaggat     420
gaaaatgata accttttcca cccaaaatac actggagagg atttaacctg tactgtgaaa     480
```

aatctcaaaa gaagcacaca gtataaattc aggctgactg cttct 525

<210> 907
<211> 365
<212> DNA
<213> Homo sapien

<400> 907
gtaaatttta agtctttcag ttttatagat acggaaaaca agggtgactc tttaccacag 60
gatgaataaa gaactaagta atatgggaaa tgcagcaatt tctggactag ctgagccgat 120
tccttcctgt gagcacactg taagctttca agttctctgg gcaggaatta cagcacctgt 180
cccctgcaat ggccctgctg tgtgatgctc atcgcttccc ttcgtgctgg agcagtcccc 240
caggtgtcca tctcctatct ttttgttcca atcttctgtg agttccagct agcaggcttt 300
acatctgggg aaaggaaaac caggggtttt agctctgttc tctgctccca tccttcgctc 360
accag 365

<210> 908
<211> 608
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(608)
<223> n = A,T,C or G

<400> 908
cggaggtgcc tcagccatgg catggatccc tctcttcctc ggcgtccttg cttactgcac 60
aggacgtgcg gcctcctttg aggtgaccca gccaccttca atgtccgtgt ccccaggaca 120
gacagccaag atcacctgca ctggagatag gttgggggat gaatatgttt gctggtatca 180
acagaagcca ggccagtccc ctgtattgat aaatatttg gataacaagc ggccctcggg 240
gatccctgac cgattctctg cctacgcctc tgggaacaca gccactctga tcatcagcgg 300
ggcccaagtt atggatgagg cttattatta ctgtcaggcg tgggacggca gaactgtggt 360
gttcggcgaa gggaccaacc tgaccgtcct aggtcagccc aaggctgccc cctcggtcac 420
tctgttcccg ccctcctctg aggagcttca agccaacaag gccacactgg tgtgtctcat 480
aagtgacttc tacccgggag ccgtgacagt ggcctggaag gcagatagca gccccgtcaa 540
ggcgggagtg gagaccacca caccctccaa acaaagcaac aacaagtacg cggncagcag 600
ctatctga 608

<210> 909
<211> 513
<212> DNA
<213> Homo sapien

<400> 909
ctggtctcaa actcctcacc tcaactgatc cgcccacctt ggcctcccaa agtgctggga 60
ttataggtgt gagccaccgt gcccaaagtt aagtattttt gatcaagtgt tttgtctttt 120
gtgcaaggca tttgtggctc tgtcatagca gaggaaaaca aaacatgcct atcaaatgaa 180
tcaagtccga cctcttctca tattgagcaa ctagaggtct aggaacattt cccctacctg 240
tcattctcat ctggcatacc aggtgtacat actccttctt attctcctct gttaccaaga 300
tgttggcccc attgggtttg aggtcacgaa ctccacaaac tccaaactct tggacctcag 360
tgctgaaggt gaggtcatag cctagtgtgg agacatcatt ttccagcaga taaaccagac 420
cttggtagaa gtggtaatct tcactctcca tatctgtata tctgactgac ttgcccaaga 480
tgtgtttgta aaaggatcga gtaaagtagc act 513

```
<210> 910
<211> 272
<212> DNA
<213> Homo sapien

<400> 910
ccggagccca cggtggtcat ggctgccaga gcgctctgta tgctggggct ggtcctggcc      60
ttgctgtcct ccagctctgc tgaggagtac gtgggcctgt ctgcaaacca gtgtgccgtg     120
ccagccaagg acagggtgga ctgcggctac ccccatgtca cccccaagga gtgcaacaac     180
cggggctgct gctttgactc caggatccct ggagtgcctt ggtgtttcaa gcccctgcag     240
gaagcagaat gcaccttctg aggcacctcc ag                                   272


<210> 911
<211> 263
<212> DNA
<213> Homo sapien

<400> 911
cctgcaggta caaattgacc aggctgttga cggctgcctc cacgtcggtg gaataattct      60
gacgaatctg ggagctcatg gttggttggc aagaaggagc taaccacaaa aacggtgctg     120
gcaggtccca gaagcaggag atggccgaga agatggtccc ggaggttgca agcggagagg     180
aaatcggagg gcggtcggag gctggaagag agtccccgga tctgttccgt ccaaacactg     240
ttgaagcaag agacagaccc gcg                                             263


<210> 912
<211> 470
<212> DNA
<213> Homo sapien

<400> 912
ctgtgagcac cagcccaacc ctacctcttt aaaaagaaaa aacacaagtc cactctgaag      60
tcagcctctg taacctcccc acaagaaaac cgtttttacat cagtcactaa ccaaacaacc    120
aacagtgctt caacacagaa agtaaagcat tatccagggc ttggactgtc tttcaagaaa     180
gccccaaatc ccctggcagg aggaagtcac agcagtgaag ccccatccca ggcccagttg     240
ttcccacgaa acacaccacg tggagaccca gcatgactgc cgactgattc caagtcccca     300
ggagggcttt attttttctt ttcaacatcc tgttctgcgg cttccttggc acttttgcc      360
cgtatgccga agagccgggc gttggcacgg gccatacgga gactagcgaa ggctttgaaa     420
ttcttctctt cctcagtgat gactcgagct ttctccttct tatagacgtt                470


<210> 913
<211> 426
<212> DNA
<213> Homo sapien

<400> 913
cctggacacc ataaggctgg tgggctttca gaattgtgtt aggggggcag gagtggcagg      60
ttcctgaatc tcggtcaata tagtaaccag caggacaaga ggtgcaggag gagcccacat     120
cagaggcttc tagggcacag ggacggcagt aggaggccac gccattcata acattggtga     180
cattgatgga gtagatcttg gcaacgtcat tggtgtactt cctgcttgcc tcatgaaaag     240
tggtcctctg gaaggcccag gtgaggctcg tggtagtgtt ctcctcaatg atgtaggtat     300
aggactgttt gcctttggaa cctttccacg tctccacagg agtgttggtc ctagaattca     360
cacccaccat gaagtagagc tcacagttca cagaacagag ggtctcaaag acaaatgtga     420
ttctgg                                                               426
```

```
<210> 914
<211> 252
<212> DNA
<213> Homo sapien

<400> 914
ccaagctggg ggtgcgcaca tgtggaagaa ctggaggccc ggtgtcatga gcagaggctg      60
taccctagat gcccgcccca gtgccagcca acccaagaca ggagaaagag tttggcagtt     120
tcgcctctga ggaatacatg cctggccctc ctgtgaggtg aggcggtagg ggggaaggcg     180
caggctccga agtctgaggg cttgccggag ggggagtttc tgagcctttt gcatgggtgc     240
atgccccctg cc                                                         252


<210> 915
<211> 234
<212> DNA
<213> Homo sapien

<400> 915
ccactgggac tttggcttcc tgatgccgat tgtggatttc tgctgcaaag acagtgatgt      60
tgagccaggc tgtttcctct ctatccagag gttttgtagt tttaataaaa ccatcctctg     120
gattaatagt gaaaaatctg tcgaggtcag tgtgacgatc gatggaatac cttatcgggc     180
tgttggcagc atcagggtct ttggcatgca ctctcccaac cacggtgcca gcag           234


<210> 916
<211> 366
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(366)
<223> n = A,T,C or G

<400> 916
ccattcagtc tcanttcaga aaattccaga agaagaaggc tgggtctcag tcctagtggg      60
agaaccccct cctagtccac ctgaaaacac caaattcaac catcatctgt caagaaatta     120
aaagaacaac accctagaga gaagtcatcc acacacaatc cacacacgca tagcaaacct     180
ccaatgcatg tacagaaacc tgtgatattt ataccettgt aggaaggtat agacaatgga     240
attgtgagta gcttaatctc tatgtttctc tccattttca ttcctcctgc aactattttc     300
cttgatgttg taataaaatg aagttacgat gagtgatnaa aaaaaaaaa aaaaaaaaa     360
aaaaaa                                                               366


<210> 917
<211> 492
<212> DNA
<213> Homo sapien

<400> 917
ggcacagcga gggcagcatc tggaggagct ctgcagcctc cacacctacc acgacctccc      60
agggctgagc tcaggaaaaa ccagccactg ctttacagga caggggggttg aagctgagcc     120
ccgcctcaca cccaccccca tgcactcaaa gattggattt tacagctact tgcaattcaa     180
aattcagaag aataaaaaat gggaacatac agaactctaa aagatagaca tcagaaattg     240
ttaagttaag cttttttcaaa aaatcagcaa ttccccagcg tagtcaaggg tggacactgc     300
```

```
acgctctggc atgatgggat ggcgaccggg caagctttct tcctcgagat gctctgctgc      360
ttgagagcta ttgctttgtt aagatataaa aaggggtttc tttttgtctt tctgtaaggt      420
ggtcttccag cttttgattg aaagtcctag ggtgattcta tttctgctgt gatttatctg      480
ctgaaagctc ag                                                         492
```

```
<210> 918
<211> 557
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(557)
<223> n = A,T,C or G
```

```
<400> 918
ctgctcctgg gtaggcgtgc gggccatatc gtaggggtag gatactagcc gctcgccgcc      60
gttcagattt gctcccagca cgaaggggtt cttctccatc caggcaatga tggcccggac      120
ctccgtggat accgtggcat ctggcgaaag gtagcgttca gggatgggca agttattgtt      180
ggggacccgg taggggaccc atttcctctc ctcagctccc cagagcacag agttgagatc      240
cgggaaatct tcaaagatgt caaagccctc ctcagtccac agtcccagcg cccagttccc      300
aaactctgag cccatctgcg ctgccacctc gtagccatca gggttcagtg agggcaccag      360
gtggatgcgt gtgtcctgca ccaggctgcg cacacgtggg ttcccatcgc ggtactctcg      420
gcacaggtac tgcatgagca gcagcaacag ctctcggccc agcacctcgt tgccatggat      480
cccagcagtg tagcggaact cgggctcccc cagttcatgc tccccanggt tgtctgagat      540
ctccatggca tagatct                                                   557
```

```
<210> 919
<211> 407
<212> DNA
<213> Homo sapien
```

```
<400> 919
ccttatgact acaacggccc acgagaaaaa tatggaatcg ttgattacat gatcgagcag      60
tccgggcctc cctccaagga gattctgacc ctgaagcagg tccaggagtt cctgaaggat      120
ggagacgatg tcatcatcat cgggggtcttt aagggggaga gtgacccagc ctaccagcaa      180
taccaggatg ccgctaacaa cctgagagaa gattacaaat ttcaccacac tttcatcaca      240
gaaatagcaa agttcttgaa agtctcccag gggcagttgg ttgtaatgca gcctgagaga      300
ttccagtcta gtatgagcc ccggagccac atgatggacg tccagggctc cacccaggac      360
tcggccatca aggacttcgt gctgaagtac gccctgcccc tggttgg                  407
```

```
<210> 920
<211> 340
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(340)
<223> n = A,T,C or G
```

```
<400> 920
cctcttgggc agcnnagggc cctgcctctg tttcatgatg catgggtcat ttgtcttggg      60
tgtcctatcc catatggaga agaaagggggc tctaagttct ggctcttctt tctttggggt      120
```

```
tctctgtacc tgaggaaacc aggccctggg tgactttgca gatctgctca ccctcggtga    180
gcaacagtgt cagccatgca agcaggacag aatggtgact gggtgccctt ggtgagctgt    240
gtatttccta ggaggtagaa aactgtggga aactgtggct aataaaaact aagtgtgagc    300
gtcnaaaaaa aaaaaaanna aaaanaaaaa aagcttgtac                          340
```

<210> 921
<211> 571
<212> DNA
<213> Homo sapien

<400> 921
```
ggaaaaataa ttttattcct caaatgatca gcacattcag aagcaggaca gaggagctct     60
gatgacatct ctgggggact caaagcggcc ctcattttct ggtatttttcc caggtgattc    120
tcttccaacc tgtgagtcct gctctctttc ctcccatctg aagtttgaga catcctctgc    180
cacaaggaaa gccaccaata ccagcccaaa gagccaccag agaggaacca aaccacatgc    240
atcaagttat aggaaggatg caagaaggga aattaggaag gaaagggagg agtttagttg    300
gcattctggg gcatgctaac atgagggcga tggtctctct ccaagtcgct ggacatatcc    360
ctttttctttc caggtgctcc aactccaatt gcagtttggg ggaacgtgtg aaacttgttg    420
aagtcctgcg tgtatgtgcc cagcatgcaa gtactcagat taccgcaccg cttagatctg    480
gggctgtcca ggctggagcc ctctctctct tgctcctgct ccagctcact ggccttcatc    540
tgcacatagt cctgcaccag tgcagccagc a                                   571
```

<210> 922
<211> 262
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(262)
<223> n = A,T,C or G

<400> 922
```
gcccaanaca tncaggtcac agcagattcg ggcacgtgtg gaagaaggtt ggatgatgtc     60
atccacaaac cctcgcactg ctgcagggaa agggttggca aacttctcga tgtactctgc    120
ctgancagct tccacattct catgcccttt gaagatgatc tccacagcgc cctttgctcc    180
catgactgca atctctgngg tgggccangc atanttggta tcaccacaaa ngtgcttaga    240
gctcatgaca tcntaggcac ct                                             262
```

<210> 923
<211> 234
<212> DNA
<213> Homo sapien

<400> 923
```
ccactgggac tttggcttcc tgatgccgat tgtggatttc tgctgcaaag acagtgatgt     60
tgagccaggc tgtttcctct ctatccagag gttttgtagt tttaataaaa ccatcctctg    120
gattaatagt gaaaaatctg tcgaggtcag tgtgacgatc gatggaatac cttatcgggc    180
tgttggcagc atcagggtct ttggcatgca ctctcccaac cacggtgcca gcag          234
```

<210> 924
<211> 152
<212> DNA
<213> Homo sapien

<400> 924
ccaggattga caggccatcc attcacagcc aggagatgct gggccagttc ctccaagagg   60
tctccgtcat ggcagtgatg aaaacctaac agggtggccc cctgtgccag ctcaggtgac   120
tggagcccga gggcctgaca ggttcccagc ag   152

<210> 925
<211> 400
<212> DNA
<213> Homo sapien

<400> 925
caatatcatg ccaaggaccc aaacaacctc ttcatggtgc gcttggcaca gggcctgaca   60
catttaggga agggcaccct taccctctgc ccctaccaca gcgaccggca gcttatgagc   120
caggtggccg tggctggact gctcactgtg cttgtctctt tcctggatgt tcgaaacatt   180
attctaggca aatcacacta tgtattgtat gggctggtgg ctgccatgca gccccgaatg   240
ctggttacgt ttgatgagga gctgcggcca ttgccagtgt ctgtccgtgt gggccaggca   300
gtggatgtgg tgggccaggc tggcaagccg aagactatca cagggttcca gacgcataca   360
accccagtgt tgttggccca cggggaacgg gcagaattgg   400

<210> 926
<211> 521
<212> DNA
<213> Homo sapien

<400> 926
ccacgtccct attttagaaa tgagaggagt gactgcacac aggaaaaatg ccacttttag   60
caattcaaag tggaaaaact tcttttatat aaaaattatc ccaactccca ccccttggct   120
ctcagtgttg catctcccac agaggtaaag ttgtgccatt ttcccacggc tttaaacaaa   180
gcaaaacaaa accaccaatc ctaataaccc ccctccctgc cccgtctcca cgctgtgcgg   240
agagggctct agcccctcag tcggacttct ccttctcctt catgtgcaag aagacgatgc   300
tgaagatgaa gagccccagc atcatggaga aggcgctggc gtagtagggg taggccgagg   360
ggatgaagcg ctcatactgc gtgtgctgga gtggccgcac ggatacctga gtggaagagt   420
acaggtgtgt gtagcctagc cggttgtaat ccactttaaa ctggaataca ccatacacgt   480
cgggcaactt gaactgaaca ctgtatttgc cacctttctt c   521

<210> 927
<211> 520
<212> DNA
<213> Homo sapien

<400> 927
ccaggctagt ctcgaactcc tgacctcagg tgatctgcct gcctcggcct cccaaagtgc   60
tgggattacc ggcgtgagcc accatgcctg gccttacatt ttttaaaatg agggaacaaa   120
tgaataaatg accaccatgt taggggctgg ctctgaacag aattgtaaag tgggccaagc   180
ttgctctcaa ggtcacctta agcccacggt tgctgtgtcc tgccctctca gggtcatttc   240
ccagcctcca ggcacctgtt cacagaggct gcatctggcc tcgcctccac ccctccatcc   300
taaggtgctc cgctgactta gaacaggaca gtcagggaga gaatgtgtct caggagggtg   360
gagtcagatg atcacggcct tcctggcatc tgaggggata cagcttcggg tagcaaagtg   420
tgattttccc tgagccccag gaaagcttgg ccttggtcag aatacattga accctgaggg   480
ccagagagtc cctggggcaa gctctgagag ggaggacctc   520

<210> 928
<211> 492

<212> DNA
<213> Homo sapien

<400> 928
ctgagctttc agcagataaa tcacagcaga aatagaatca ccctaggact ttcaatcaaa   60
agctggaagt ccaccttaca gaaagacaaa aagaaacccc tttttatatc ttaacaaagc   120
aatagctctc aagcagcaga gcatctcgag gaagaaagct tgcccggtcg ccatcccatc   180
atgccagagc gtgcagtgtc cacccttgac tacgctgggg aattgctgat ttttgaaaa   240
agcttaactt aacaatttct gatgtctatc ttttagagtt ctgtatgttc cattttttta   300
ttcttctgaa ttttgaattg caagtagctg taaaatccaa tctctgagtg catgggggtg   360
ggtgtgaggc ggggctcagc ttcaacccc tgtcctgtaa agcagtggct ggttttttcct   420
gagcccagcc ctgggaggtc gtggtaggtg tggaggctgc agagctcctc cagatgctgc   480
cctcgctgtg cc   492

<210> 929
<211> 209
<212> DNA
<213> Homo sapien

<400> 929
tttttttcacc atctaacaaa ggcactttat tgcattacca ttcacaatta acagtcaaga   60
acaaataata ataacaaata aaataacttt taagaggaca aggcattaga aataaaaaag   120
gacactaata acatttgtaa aagcttgtac tggatgtggt tgcccccatt tgtgtgtgtg   180
gttgtgtgtg tgtggttgtg tgttggtgg   209

<210> 930
<211> 617
<212> DNA
<213> Homo sapien

<400> 930
cgcgtccttt aacaagcccc gttctcaaaa ggctgggggt atttatataa gaacttattc   60
caaagtgact ctaagatcca tgttcccaag atctagtacg ggctattcat ggttctgagg   120
catgtccagc atgcaggcaa acttatctgt tcaaattgag gtaaaacaga caaaaaacac   180
ttaatattaa cagaagctac ataattaaaa ctaaccttct gctgcttatt taagctaatg   240
atgtattctt accaaacaga gaccctcaag tcaatcattt cttttgattt tagttaccac   300
ccccaaatta agcctcttct ttcaaagcca ttattagtta aaaaaaagtt ttaaaatgaa   360
gaaaaatatt ttttccagaa cttgtatttt gtaattagtg tgatgcaatt tctttttatt   420
tttcaaactt agaaataact catgtatggt actatttggt atttttttca gataccaagg   480
aataccgaca ggattcataa ataggatttt ctgacactgg caggaaagtc tgctaacgtt   540
tacaaaatac caaagactct tctttcaagc ttcaaagatg gctgagaatt aacagttatg   600
attagttttt cagtaca   617

<210> 931
<211> 521
<212> DNA
<213> Homo sapien

<400> 931
ccaacaaaat tggtgaacac atggaagaac atggcatcaa gtttataaga cagttcgtac   60
caattaaagt tgaacaaatt gaagcaggga caccaggccg actcagagta gtagctcagt   120
ccaccaatag tgaggaaatc attgaaggag aatataatac ggtgatgctg gcaataggaa   180
gagatgcttg cacaagaaaa attggcttag aaaccgtagg ggtgaagata aatgaaaaga   240
ctggaaaaat acctgtcaca gatgaagaac agaccaatgt gccttacatc tatgccattg   300

```
gcgatatatt ggaggataag gtggagctca ccccagttgc aatccaggca ggaagattgc    360
tggctcagag gctctatgca ggttccactg tcaagtgtga ctatgaaaat gttccaacca    420
ctgtatttac tcctttggaa tatggtgctt gtggcctttc tgaggagaaa gctgtggaga    480
agtttgggga agaaaatatt gaggtttacc atagttactt t                       521
```

```
<210> 932
<211> 197
<212> DNA
<213> Homo sapien
```

```
<400> 932
ccttgtgacc aattacatat gattaaaatt acttcccaca ttcacatcca cagtactcgt     60
ccaccattta acatctcaac caaaacgtta cacatgtgaa acaatcacta acaggcaaaa    120
atactaaacc tgtatatttg gtattgcaaa tacacttatg catgagcaag caagggattc    180
acagtgagaa tctacag                                                  197
```

```
<210> 933
<211> 610
<212> DNA
<213> Homo sapien
```

```
<400> 933
cctcattta acaatatctt ttttttgctc ttctgcttcc aaaccttatt tgccaatgta     60
atgcctttat ataaagttct tatgatgaat gaaaaacttt caagtgctgt tgcctcatta    120
aatgcattat ttattaattt aacttctagt actctcgata aagagccagt gaaatgagtt    180
attgagttcc agggaaaaaa atgagaacat aattttgaat ttattatctc tctatacaca    240
cacagttcat aattggatta catataataa taatatcaac aagtctatca gtatcgaagt    300
tggatactgg taatttctca tgtgaggctc ttgtgtcaca gtcagcatag atttctggag    360
catttgtctg ttgatctttt ggtggcctca aacctcatta agtggtgtgg gagatgctgt    420
ttctgccatg tgagaatgtg atggcagaat taacacaacc ccaccagggg tacaacagag    480
cactttacat ccaaaggcag agagggacac agcaatgcag aattccagca cacttaagag    540
gagcaccatg ccatccagac ccattaagat ggacatagtc ccatgacaat tatttgagtt    600
gccatagtag                                                          610
```

```
<210> 934
<211> 384
<212> DNA
<213> Homo sapien
```

```
<400> 934
ctgctaccag gggagcgaga gctgactatc ccagcctcgg ctaatgtatt ctacgccatg     60
gatggagctt cacacgattt cctcctgcgg cagcggcgaa ggtcctctac tgctacacct    120
ggcgtcacca gtggcccgtc tgcctcagga actcctctga gtgagggagg aggggggctcc    180
tttcccagga tcaaggccac agggaggaag attgcacggg cactgttctg aggaggaagc    240
cccgttggct tacagaagtc atggtgttca taccagatgt gggtagccat cctgaatggt    300
ggcaattata tcacattgag acagaaattc agaaagggag ccagccaccc tggggcagtg    360
aagtgccact ggtttaccag gcag                                          384
```

```
<210> 935
<211> 125
<212> DNA
<213> Homo sapien
```

```
<220>
```

<220>
<221> misc_feature
<222> (1)...(125)
<223> n = A,T,C or G

<400> 935
nttaaaattc atggaagtaa tannacagta ataaaatatg gatactatga aaactgacac   60
acagaaaaac ataaccataa aatattgttc caggatacag atattaatta agagtgactt   120
cgtta   125

<210> 936
<211> 546
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(546)
<223> n = A,T,C or G

<400> 936
gcccatgcca gcgtgtggtc agcacgcaca acttgtggct gctgtccttc ctgaggaggt   60
ggaatgggag cacagccatc acagacgata ccctgggtgg cactctcacc attacgctgc   120
ggaatctaca accccatgat gcgggtctct accagtgcca gagcctccat ggcagtgagg   180
ctgacaccct caggaaggtc ctggtggagg tgctggcagg ttctcccgcc aaggttctcc   240
ccctgcctcg aggaggaagg ggctggaggc tcatggctct gcctcccata gaccccctgg   300
atcaccggga tgctggagat ctctggttcc ccggggagtc tgagagcttc gaggatgccc   360
atgtggagca cagcatctcc aggagcctct ggaaggaga aatcccttc ccacccactt   420
ccatccttct cctcctggcc tgcatctttc tcatcaagat tctagcagcc agcgccctct   480
gggctgcagc ctggcatgga cagaagccag ggacacatnc acccagtgaa ctggactgtg   540
gacctc   546

<210> 937
<211> 550
<212> DNA
<213> Homo sapien

<400> 937
caccaatcaa aattcctgtt ggtcctgaga ctttgggcag aatcatgaat gtcattggag   60
aacctattga tgaaagaggt cccatcaaaa ccaaacaatt tgctcccatt catgctgagg   120
ctccagagtt catggaaatg agtgttgagc aggaaattct ggtgactggt atcaaggttg   180
tcgatctgct agctccctat gccaagggtg gcaaaattgg gctttttggt ggtgctggag   240
ttggcaagac tgtactgatc atggagttaa tcaacaatgt cgccaaagcc catggtggtt   300
actctgtgtt tgctggtgtt ggtgagagga cccgtgaagg caatgattta taccatgaaa   360
tgattgaatc tggtgttatc aacttaaaag atgccacctc taaggtagcg ctggtatatg   420
gtcaaatgaa tgaaccacct ggtgctcgtg cccgggtagc tctgactggg ctgactgtgg   480
ctgaatactt cagagaccaa gaaggtcaag atgtactgct atttattgat aacatctttc   540
gcttcaccca   550

<210> 938
<211> 192
<212> DNA
<213> Homo sapien

<220>

```
<221> misc_feature
<222> (1)...(192)
<223> n = A,T,C or G

<400> 938
ttttttttttt tttttttttt tttttttngg aaaaagccca aaaggcactt tattggaggt      60
ctntgcctcc attcacagga aaaaggagct gggagcccca tcctaagggt cccagcatca     120
gcccactgga gggcctggaa cagtccanca ctntgtggga aaggagtggg gaggggaatg     180
ttttaaaaaa aa                                                         192


<210> 939
<211> 337
<212> DNA
<213> Homo sapien


<400> 939
ccaaaatatt ggaacacaca gaaccaaacc aggtgtgttc tacacctgca tgagtgaagg      60
atttccacgt agacacctag gaagagcccg catgccctag actcactcca gaggaaggat     120
tgatttgcaa ccagaaaggg agctgaaaac cacggagctc catggctctt cattcaaaag     180
ggaaaataat gattccacgt tgctttttag agttcaaatc aacatctttc tggataaatc     240
tatttttttaa caatcttttt attatttgta aaagatataa aaacaactcc catcagtagc     300
aatacaaggt tatacatttt aaccagattt tctcagg                              337


<210> 940
<211> 362
<212> DNA
<213> Homo sapien


<400> 940
cctgtccaaa cgtgcgcacc aggaccgagg ggagctccct cccaacacct gctaggaatt      60
gccaactttt aaatggatgg ggttttttat gggttgaacc tctgttaata cttttgtaca     120
ctctcactac agtttatatt tttataggct attttctcaa ggtgtttcta gattccacat     180
atctatttta tataacaagt tattatgtta tgtgtgtgac tcccttgtgt gtatctgtgc     240
cagcctcagc ctccgagttg cttttccctc tggccctgac tctcactgac tcaccgatgt     300
ggtgtgcagg cccacttctt accccagata gcctcgggcg ctgcctgtag tcatgccgac     360
ag                                                                   362


<210> 941
<211> 216
<212> DNA
<213> Homo sapien


<400> 941
ctggacatct ttccagcccg ggatacctac catcctatga gcgagtaccc cacctaccac      60
acccatgggc gctatgtgcc ccctagcagt accgatcgta gcccctatga gaaggtttct     120
gcaggtaatg gtggcagcag cctctcttac acaaacccag cagtggcagc cacttctgcc     180
aacttgtagg ggcatgtcgc ccgctgagct gagtgg                              216


<210> 942
<211> 324
<212> DNA
<213> Homo sapien


<400> 942
```

```
ctgattggct tcaggccccc tacctctata aactctacca gcattactac ttcctggaag      60
gtcaaattgc catcctatat gtctgtggcc ttgcctctac agtcctcttt ggcctagtgg     120
cctcctccct tgtggattgg ctgggtcgca agaattcttg tgtcctcttc tccctgactt     180
actcactatg ctacttaacc aaactctctc aagactactt tgtgctgcta gtggggcgag     240
cacttggtgg gctgtccaca gccctgctct tctcagcctt cgaggccagg gagcctcaaa     300
tcttcagtct ctcagagacc acag                                            324
```

<210> 943
<211> 597
<212> DNA
<213> Homo sapien

<400> 943
```
ctgacaaaat tcctgggtta ctaggtgtct ttcagaagct gattgcatcc aaagcaaatg      60
accaccaagg tttttatctt ctaaacagta taatagagca catgcctcct gaatcagttg     120
accaatatag gaaacaaatc ttcattctgc tattccagag acttcagaat tccaaaacaa     180
ccaagtttat caagagtttt ttagtcttta ttaatttgta ttgcataaaa tatggggcac     240
tagcactaca agaaatattt gatggtatac aaccaaaaat gtttggaatg gtttttggaaa    300
aaattattat tcctgaaatt cagaaggtat ctggaaatgt agagaaaaag atctgtgcgg     360
ttggcataac caaattacta acagaatgtc ccccaatgat ggacactgag tataccaaac     420
tgtggactcc attattacag tctttgattg gtcttttga gttacccgaa gatgatacca      480
ttcctgatga ggaacatttt attgacatag aagatacacc aggatatcag actgccttct     540
cacagttggc atttgctggg aaaaaaagag catgatcctg taggtcaaat ggtgaat        597
```

<210> 944
<211> 359
<212> DNA
<213> Homo sapien

<400> 944
```
ctggaagagg aaaaggagat actgcagaaa gaactctctc aacttcaagc tgcacaggag      60
aagcagaaaa caggtactgt tatggatacc aaggtcgatg aattaacaac tgagatcaaa     120
gaactgaaag aaactcttga agaaaaaacc aaggaggcag atgaatactt ggataagtac     180
tgttccttgc ttataagcca tgaaaagtta gagaaagcta aagagatgtt agagacacaa     240
gtggcccatc tgtgttcaca gcaatctaaa caagattccc gagggtctcc tttgctaggt     300
ccagttgttc caggaccatc tccaatccct tctgttactg aaaagaggtt atcatctgg      359
```

<210> 945
<211> 367
<212> DNA
<213> Homo sapien

<400> 945
```
caggatctga agtttggggt cgagcaggat gttgatatgg tgtttgcgtc attcatccgc      60
aaggcatctg atgtccatga agttaggaag gtcctgggag agaagggaaa gaacatcaag     120
attatcagca aaatcgggaa tcatgagggg gttcggaggt ttgatgaaat cctggaggcc     180
agtgatggga tcatggtggc tcgtggtgat ctaggcattg agattcctgc agagaaggtc     240
ttccttgctc agaagatgat gattggacgg tgcaaccgag ctgggaagcc tgtcatctgt     300
gctactcaga tgctggagag catgatcaag aagccccgcc ccactcgggc tgaaggcagt     360
gatgtgg                                                               367
```

<210> 946
<211> 335
<212> DNA
```

<213> Homo sapien

<400> 946
```
ccacagaggt ggtattacaa aatatacaaa gtggtttctt tctttacatt tcatagaaga   60
agcctgcctc atttccaaat gagagcacta gaagcacaaa tcatgcagac catttactat   120
ataacttatg aaaaatgctg tacagggctg tgactataga tatagagtat ttggctctgt   180
ttgggaattg atatctacaa gggggagggt caggggagga ctgtccgata tcctgacttg   240
ctgggatggt ggagaagctg ggatggggga ggccccaatc ttgctgcacg gctacaccca   300
ctcctccttt cctagacaag gctggagcgc actgg   335
```

<210> 947
<211> 384
<212> DNA
<213> Homo sapien

<400> 947
```
cctcttggag cacatccttt actgcattgt ggacagcgag tgtaagtcaa gggatgtgct   60
ccagagttac tttgacctcc tgggggagct gatgaagttc aacgttgatg cattcaagag   120
attcaataaa tatatcaaca ccgatgcaaa gttccaggta ttcctgaagc agatcaacag   180
ctccctggtg gactccaaca tgctggtgcg ctgtgtcact ctgtccctgg accgatttga   240
aaaccaggtg gatatgaaag ttgccgaggt actgtctgaa tgccgcctgc tcgcctacat   300
atcccaggtg cccacgcaga tgtccttcct cttccgcctc atcaacatca tccacgtgca   360
gacgctgacc caggagaacg tcag   384
```

<210> 948
<211> 173
<212> DNA
<213> Homo sapien

<400> 948
```
ctgtggaggg gacactgtct ttgaggcatc actggttcca caaagggtag gggaaggtct   60
tgagggacca ccccatgccc tcattaatca accagaagct tggcctggag cagcagcggg   120
gattccagta gctgtgggca tacaggatgc tagggcggcc acaacccagg cag   173
```

<210> 949
<211> 211
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(211)
<223> n = A,T,C or G

<400> 949
```
ccatccacgt tgnnaaacag aataaaatgg aaattcacct tgtcatctac ccgacattgg   60
ccttcctgtg ccacggcatc atgggctgcc tgtatggcct cattcttttc aaagcatttt   120
gctctgtctt caggggacat tttctctgtt tcagaaagaa actgtttcag aactgatcca   180
tcctcaaatc ccagtttgtc ttgattattg g   211
```

<210> 950
<211> 382
<212> DNA
<213> Homo sapien

```
<400> 950
cctcatcgtg agtcaggacg tggtgaaagc tgcagtggct gctgtgctct ctccagaaga      60
attcatggtc ctgttggact ctgtgcttcc tgagagtgcc catcggctga agtcaagcat     120
cgggctgatc aatgaaaagg ctgcagataa gctgggatct acccagatcg tgaagatcct     180
aactcaggac actcccgagt tttttataga ccaaggccat gccaaggtgg cccaactgat     240
cgtgctggaa gtgtttccct ccagtgaagc cctccgccct ttgttcaccc tgggcatcga     300
agccagctcg gaagctcagt tttacaccaa aggtgaccaa cttatactca acttgaataa     360
catcagctct gatcggatcc ag                                              382
```

```
<210> 951
<211> 473
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(473)
<223> n = A,T,C or G
```

```
<400> 951
cctctctgcc aggcaaagga gggagctgcg gctctttgac attaaaccag agcagcagag      60
atacagcctt ttcctccctc tccatgaact ctggaaacag tacatcaggg acctgtgcag     120
tgggctcaag ccagacacgc agccacagat gattcaggcc aagctcttaa aggcagatct     180
tcacggggct attatttcag tgacaaaatc caaatgcccc tcttatgtgg gtattacagg     240
aatccttcta caggaaacaa agcacatttt caaaattatc accaaagaag accgcctgaa     300
agttatcccc aagctaaact gcgtgttcac tgtggaaacc gatggcttta tttcctacat     360
ttacgggagc aaattccagc ttcggtcaag tgaacggtct gcgaagaagt tcaaagcgaa     420
nggaacgatt gacctgtgaa ttctttgccg tctaangcag ttgtttatga cag           473
```

```
<210> 952
<211> 312
<212> DNA
<213> Homo sapien
```

```
<400> 952
ctgatgggtc tcatagtcct ctgggatggt gtcattgcag cggtaacgca ggttggccca      60
gatgatgttc tcctgggaga agcagaagac ccccaagcgg ccaccccgca tggttgtgtc     120
caagaccacg ttgctgtcgg ccaccagctc agggccctca tagaatcgca ccctgatgta     180
gcccacttgg ggccggtgct gcaggaacca acgataggac ttcttgtcct tccaacccac     240
gtttcgcggg tccttccaca gcagccgcac ctgagactct gtgtctcctg tatgccacag     300
agcgttccgc ag                                                          312
```

```
<210> 953
<211> 397
<212> DNA
<213> Homo sapien
```

```
<400> 953
cgcgtccact gccgaccctc ttggtttctg aaaccaacct ttcttcctgc tctcctcttt      60
aagagcaaac cccaacatgt ataaggtcac agcaagtggt agccaggaaa agctgtggga     120
cccctcattt gagtcacatc catatggcat ggagaaagaa aacctctctg ccagaaggaa     180
ctgaactctg gaagtcctaa ggaaggtcac catgatcagc agataggaaa gcattgccaa     240
gggctgtccc tcaagagctt agttttctta gggagaccag aaagacatca gatcctgact     300
```

```
gccctgtttt gctcaagttc tgaaatgagt ggcatgatga agagctggtg gagctgaggg      360
aaagagtcaa ccatgtgggg tggggtagtg aggaagg                               397


<210> 954
<211> 304
<212> DNA
<213> Homo sapien


<400> 954
cctttgtacc gggccagcaa ctggaagggc acagtgtgga attccagggc ctgcagagtc       60
ttcttctgga acagggcctc gtggctccag tacagggaca ggttgaactg cagctcaaag      120
agctcctcag ggagcatcat ggggaagcgg atcttctcca ccaagccctc cacctcctca      180
tgggaggcac gctccccca gctccaggtg tccacggcct tcagtagggc cagctcgctg       240
ggcaccgcca ggtcgctcct gggcagcagc agttggagca ggtctgtggg gacactgggc      300
cagg                                                                   304


<210> 955
<211> 156
<212> DNA
<213> Homo sapien


<400> 955
ctgtttcaac tccctgccaa gaaaaatgta gatgcaattc tggaggagta tgcaaattgc       60
aagaaatcgc agggaaatgt tgataataag gaatatgcgg tcaatgaagt tgtggcagga      120
ataaaagaat atttcaatgt gatgttgggc actcag                                156


<210> 956
<211> 543
<212> DNA
<213> Homo sapien


<400> 956
ctttcatctg accatccata tccaatgttc tcatttaaac attacccagc atcattgttt       60
ataaccagaa actctggtcc ttctgtctgg tggcacttag agtcttttgt gccataatgc      120
agcagtatgg agggaggatt ttatggagaa atggggatag tcttcatgac cacaaataaa      180
taaaggaaaa ctaagctgca ttgtgggttc tgaaaaggtt attatacttc ttaacaattc      240
ttttttttcag ggacttttct agctgtatga ctgttacttg accttctttg aaaagcattc     300
ccaaaatgct ctattttaga tagattaaca ttaaccaaca taatttttt tagatcgagt       360
cagcataaat ttctaagtca gcctctagtc gtggttcatc tctttcacct gcattttatt      420
tggtgtttgt ctgaagaaag gaaagaggaa agcaaatacg aattgtacta tttgtaccaa      480
atctttggga ttcattggca ataatttca gtgtggtgta ttattaaata gaaaaaaaaa       540
att                                                                    543


<210> 957
<211> 528
<212> DNA
<213> Homo sapien


<400> 957
ctgtgatcaa gatgtattaa aagaatatga aagagcatct gggttattct agaagttctg       60
tgatcaaaac atattaaaaa aaattaaagc gcatctgggt tattctagaa gttcctgggc      120
tttatacttg gatatttaca gaggaagttg aacttcaagt tctgccactc ttcaaaatgg      180
gtgacaggag aggacgtgat aggacagtta aaaaaaaatt gatagtcatt ctctgatgga      240
gtgaagcaag ctttgtcaac catcaacaaa tatgacttca ttggtcacaa gccctgcaga      300
```

```
gatccaacaa gatttgagtt ttaaatacag aacatatttc aaacagaacc agcagagtgc      360
tgatgtatga atggaattga ttgctgaagg cagagagtat aaagaatctc aagaaacttt      420
tagtgccatt ttcatttaat aagccattgg tatagcaacc taaaaacctt ggctgtgatg      480
acaccaggat gtgtttatgg aattgctgca ggagaacaca attggcag                   528
```

```
<210> 958
<211> 451
<212> DNA
<213> Homo sapien
```

```
<400> 958
ctgtctgacc atggggacct tctgtctgaa gaggagctgg atgaatgaga ctctgggaat       60
catctacaca ggaccaaacc caacaggcgc cctggcaccg gggaggcggg tagttgtact      120
ctgcttgtac agtccttgag cccagtttac agatctggag agcaggaggc caggacaagg      180
acaaaggctg gaggatggag taggacccag gggctctgcc atcctaggca tcattcaagg      240
tcttttatga agactttaca gatgtcctct gtaagtagca tcgagagtgg agttcagctc      300
ctttctctac tttttttggg tctgatggca catatttatt gttctgtggt ctaatcacag      360
tgtttctaaa tgtaaaaagt gcatatgttg gtgtagctag tcccgcgaca ttgagctcct      420
ctgcatgaag acactgggct cctgcatcca g                                      451
```

```
<210> 959
<211> 158
<212> DNA
<213> Homo sapien
```

```
<400> 959
ccagaccaag gctgctggac ctatgggaat attcgggtgt ctgtagagga tgtgactgtc       60
ctggtggact acacagtacg gaagttctgc atccagcagg tgggcgacat gaccaacaga      120
aagccacagc gcctcatcac tcagttccac tttaccag                               158
```

```
<210> 960
<211> 235
<212> DNA
<213> Homo sapien
```

```
<400> 960
ctgagcaggg aatccggccg gaggaaggag cagcttaccg actgcgggtg ttcaccacag       60
gccaggccct aatatgcacc cactagttta gctcagactc ctctctacat atgaatggca      120
aaggcacttt tgatatacac tgtaaaatac actgtatttt agaatcggaa tctattttct      180
aatgttcccc tcaagggctg agtggcagga aggttgagga tgcaggactt tgcag           235
```

```
<210> 961
<211> 375
<212> DNA
<213> Homo sapien
```

```
<400> 961
cctggaaaga aaagggatat gtccagcgac ttggagagag accatcgccc tcatgttagc       60
atgccccaga atgccaacta aactcctccc tttccttcct aatttccctt cttgcatcct      120
tcctataact tgatgcatgt ggtttggttc ctctctggtg gctctttggg ctggtattgg      180
tggctttcct tgtggcagag gatgtctcaa acttcagatg ggaggaaaga gagcaggact      240
cacaggttgg aagagaatca cctgggaaaa taccagaaaa tgagggccgc tttgagtccc      300
ccagagatgt catcagagct cctctgtcct gcttctgaat gtgctgatca tttgaggaat      360
aaaattattt ttccc                                                        375
```

<210> 962
<211> 409
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(409)
<223> n = A,T,C or G

<400> 962
```
ctggggaggc cccncgggcc tctcangtgg acaggtccag gcattggttg aagctggatg      60
aagctggggc ctnngctcct nctcatcaaa tacagatcac tgngaccctg tcctcctcca     120
tggtgctggt ctcctcggcc ccactgcccc tgcttctgct ttcttcctcc acctcctcct     180
cccccagctc catgtccagc tcgttgcctg cctctgaggg tgtgtaggtg gagccactga     240
tggaacggca gctaaagaag acgattcgct tgagccgctt gttgtagaag aagtagttga     300
aggaccagag gctaccatcc tccccgaagg gatctgagtc caagtctggg ttatagctgt     360
agatgtcaca ttcagccagg cagatctcct cgtccaccgc gttccacag                 409
```

<210> 963
<211> 163
<212> DNA
<213> Homo sapien

<400> 963
```
gccatggcgt cctatttcga tgaacacgac tgcgagccgt cggaccctga gcaggagacg      60
cgaaccaaca tgctgctgga gctcgcaagg tcacttttca ataggatgga ctttgaagac     120
ttggggttgg tagtagattg ggaccaccac ctgcctccac cag                       163
```

<210> 964
<211> 344
<212> DNA
<213> Homo sapien

<400> 964
```
ccactggctg agttattggc ctggcaggta tagagtccgc tgttcttctc agtgatgttg      60
gagataaaga gctcttgtgt gtgttgctgg atgttcccat caatcagcca agaatactgt     120
gcaggtgggt tagaggctgc atggcaggag aggctgaggt tcacccctgg acggtaatag     180
gtgtatgagg gggaaatggt ggggtcgtct gggccataga ggacattcag gatgactggg     240
tcgctgtggt caacacttaa ttcgttctgg attccacact cataggtcc tacatcattc     300
cttgtgacac tgagtagagt gagggtcctg ttgtcattgg acag                      344
```

<210> 965
<211> 461
<212> DNA
<213> Homo sapien

<400> 965
```
ctgagctttc agcagataaa tcacagcaga aatagaatca ccctaggact ttcaatcaaa      60
agctggaagt ccaccttaca gaaagacaaa aagaaacccc tttttatatc ttaacaaagc     120
aatagctctc aagcagcaga gcatctcgag gaaggaagct tgcccggtcg ccatcccatc     180
atgccagagc gtgcagtgtc cacccttgac tacgctgggg aattgctgat tttttgaaaa     240
agcttaactt aacaatttct gatgtctatc ttttagagtt ctgtatgttc ccattttta      300
```

```
ttcttctgaa ttttgaattg caagtagctg taaaatccaa tctttgagtg catggggggtg    360
ggtgtgaggc ggggctcagc ttcaaccccc tgtcctgtaa agcagtggct ggttttttcct   420
gagcccagcc ctgggaggtc gtggtaggtg tggaggctgc a                         461
```

<210> 966
<211> 246
<212> DNA
<213> Homo sapien

<400> 966
```
cctttcacag acactaccat tgagtgggtt gatgcaggtt gcagccttca gtccccgagt    60
actgggttct gataaaattc cacagaatcc agcatcactg ggctcagacg gcatccactg   120
tagtaaacta tttgtaaatg gggacatatc ttcccagcac cagtaggaca cattgatctt   180
ccgaaggccg acccatgggg ttaaggtgag cttggacatg ctctgagatg actgcattat   240
tcgcag                                                              246
```

<210> 967
<211> 244
<212> DNA
<213> Homo sapien

<400> 967
```
ctggagcatt ggcagggaca gtcagaaagg agacaagtga aaacggtcag atggacacag    60
gcggaggaga aaagacagag ggagagagac catcgggaac aatcagaggg gccgagacga   120
tcagaaaagg gtcagcccga gacaggctga gccagagttt ctagaagcag tttccaattc   180
aacggctcgc tttgagggcc aacgtgtcct aggccgaggc tgcagaagcg ctcacacact   240
cacg                                                                244
```

<210> 968
<211> 436
<212> DNA
<213> Homo sapien

<400> 968
```
ccaaagtctt taccctattt aacccccttgt atatttctga ctgctcactg ttcatattat    60
aggggaccag atttgtaata tagaattctc cataacatga atgaaattaa tgctgtccaa   120
gccagcatgg tggcttcata ttaagtagta acagaagtct gaacaattgg ataaatttga   180
cttccaagac agctaaactt ttcaactgca attttaaaaa ctacactaca ctgttatagt   240
taatctgaca aaaatgtcct caaagagtac tttattttat ttaaagcatc tgtttaattc   300
aacctttaat aattttgcaa agaagggtac gtgtgtattt taatatagcc tgacctgaat   360
ttatatgttt ttagctttag tatttaactt tttgtaacaa ataaacctttt tttaaaacaa   420
gtttaaaaaa gaaaaa                                                    436
```

<210> 969
<211> 383
<212> DNA
<213> Homo sapien

<400> 969
```
ctggctccct tgtctccagg gctttggagg atcagggtag ggagggctct gtctctaagc    60
caggtgtcag gatcagaatc atgggtagaa ggtgccattc agctcacagc cgcacccaga   120
atcctttgca gccctccttc tttattttttt tcccattgca ttctgggagt ccacatctgg   180
ctttctcagc cactgttcat caccaggggt tttaggagga aggcttggct cctgtcttcc   240
cagacccacc atgcctggag aggtcaggat ggaactacct cattcggcga attagcccca   300
```

```
aattgaacgc tgaatcgtgt cccatgagat caggcgccat ctgtaaagtc tcctctggaa     360
atgccaatcc atccttcccc cag                                             383
```

```
<210> 970
<211> 543
<212> DNA
<213> Homo sapien
```

```
<400> 970
ctgtagcttt tgtgggactt ccactgctca ggcgtcaggc tcaggtagct gctggccgcg      60
tacttgttgt tgctttgttt ggagggtgtg gtggtctcca ctcccgcctt gacggggctg     120
ctatctgcct tccaggccac tgtcacggct cccgggtaga agtcacttat gagacacacc     180
agtgtggcct tgttggcttg aagctcctca gaggagggcg ggaacagagt gaccgagggg     240
gcagccttgg gctgacctag gacggtcagc ctggtccctc cgccgaacac cgaagtgcta     300
ctgtttgtat atgagctgca gtaataatca gcctcgtcct cagcctggag cccagagatg     360
gtcagggagg ccgtgttgcc agacttggag ccagagaagc gattagaaac ccctgagggc     420
cgatcagtga catcataaat catgagtttg ggggctttgc ctgggtgctg ttggtaccag     480
gagacatagt tataaaaacc aacgtcactg ctggttccag tgcaggagat ggtgatcgac     540
tgt                                                                   543
```

```
<210> 971
<211> 416
<212> DNA
<213> Homo sapien
```

```
<400> 971
ccagactgac ttcaaaaaat taatgtgtat ccagggacat tttaaaaacc tgtacacagt      60
gtttattgtg gttaggaagc aatttcccaa tgtacctata agaaatgtgc atcaagccag     120
cctgaccaac atggtgaaac cccatctgta ctaaacataa aaaaattagc ctggcatggt     180
ggtgtacgcc tgtaatccca gtgacttggg aggctgaggc aggagaatcg cttgaacccg     240
ggaggcggag gttgcagtga gctaagatcg caccactgta ctccagcctg ggcaacagcg     300
agactccatc tcaaaaaaaa aggaaatgtg tatcaagaac atgattatcc aggggtattt     360
tctaattcag atcatcaaac tgattatata gaagagttgg ctttaaaatg tttgca         416
```

```
<210> 972
<211> 242
<212> DNA
<213> Homo sapien
```

```
<400> 972
ccaaaaatcc caaaacatca ttttcaatca gtagagaagt gcttagggtt gaaaattgat      60
ttcatttgct actgaatttg gtaaatcctg ggtaactttt atcaagatga agacatttta     120
ccctacctac tctagaaata tacaacaatg ttatatttta cactccttgg aaacatttga     180
ggaaaaaaat gcaatttgca cttcactttg ttggaatatc ccatagcact caataaactc     240
ag                                                                    242
```

```
<210> 973
<211> 347
<212> DNA
<213> Homo sapien
```

```
<400> 973
cctgcagggg atggaacctt ccagaagtgg gcggctgtgg tggtgccttc tggagaggag      60
cagagataca cctgccatgt gcagcatgag ggtctgccca gcccctcac cctgagatgg      120
```

```
gagctgtctt cccagcccac catccccatc gtgggcatca ttgctggcct ggttctcctt     180
ggagctgtga tcactggagc tgtggtcgct gccgtgatgt ggaggaggaa gagctcagga     240
cattttcttc ccacagatag aaaaggaggg agttacactc aggctgcaag cagtgacagt     300
gcccagggct ctgatgtgtc tctcacagct tgtaaagtgt gagacag                   347
```

```
<210> 974
<211> 571
<212> DNA
<213> Homo sapien
```

```
<400> 974
gaaagagcga gatgcgagaa cacttttggc taaaaatctc ccttacaaag tcactcagga     60
tgaattgaaa gaagtgtttg aagatgctgc ggagatcaga ttagtcagca aggatgggaa     120
aagtaaaggg attgcttata ttgaatttaa gacagaagct gatgcagaga aaacctttga     180
agaaaagcag ggaacagaga tcgatgggcg atctatttcc ctgtactata ctggagagaa     240
aggtcaaaat caagactata gaggtggaaa gaatagcact tggagtggtg aatcaaaaac     300
tctggtttta agcaacctct cctacagtgc aacagaagaa actcttcagg aagtatttga     360
gaaagcaact tttatcaaag taccccagaa ccaaaatggc aaatctaaag ggtatgcatt     420
tatagagttt gcttcattcg aagacgctaa agaagcttta aattcctgta ataaaaggga     480
aattgagggc agagcaatca ggctggagtt gcaaggaccc aggggatcac ctaatgccag     540
aagccagcca tccaaaactc tgtttgtcaa a                                    571
```

```
<210> 975
<211> 221
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(221)
<223> n = A,T,C or G
```

```
<400> 975
ctggaggtgc ctcanaaggt gcattctgct tcctgcaggg gcttgaaaca ccaaggcact     60
ccagggatcc tggagtcaaa gcagcagccc cggttgttgc actccttggg ggtgacatgg     120
gggtagccgc agtccaccct gtccttggct ggcacggcac actggtttgc agacaggccc     180
acgtactcct cagcagagct ggaggacagc aaggccagga c                        221
```

```
<210> 976
<211> 316
<212> DNA
<213> Homo sapien
```

```
<400> 976
ccatcagatt gtcacagact tttataaccc tttgatccct accaacgtta agtatgagtt     60
tggccctgcc atcttcattg gctgggcagg gtctgcccta gtcatcctgg gaggtgcact     120
gctctcctgt tcctgtcctg ggaatgagag caaggctggg taccgtgcac cccgctctta     180
ccctaagtcc aactcttcca aggagtatgt gtgacctggg atctccttgc cccagcctga     240
caggctatgg gagtgtctag atgcctgaaa gggcctgggg ctgagctcag cctgtgggca     300
gggtgccgga caaagg                                                    316
```

```
<210> 977
<211> 335
<212> DNA
```

<213> Homo sapien

<400> 977
```
cctgtttgtc tgtacagcaa tgcagatgcg caggcccatc ctggtggagg acccagatgc     60
agggagcaaa tattcgggtt gtgttgctaa gagtcgcagg aactactgct agtgatacta    120
ggcttgctgc aggaggatgt cacgctgaga aagggagatg actaggagca gaaaaagtac    180
tctcactgtt ccagcttcca gcccaatcct agcagaatga atgcatttta aaatcagtcc    240
acattcacat gtgctgagaa ggttgttagt ggtccctcat ctgggcaaag cagacccaag    300
atggtgctaa gtgcagagtg cagagcattc ttgtg                              335
```

<210> 978
<211> 280
<212> DNA
<213> Homo sapien

<400> 978
```
cctaacaccc aagctcttcc ttgcagaaga gctgagatgc taaggagacc atctggagtg     60
tcataataag cccttgggat ttgctgagct cccacatggc tttcttcaac cacctggccc    120
actttcttca accacattcc actttggaat gcgtgtcttt aaggcaccaa gtgatcttaa    180
gaatgggctc tgtttttgaa ttcagcaatc caagttccta tctatctcgg tgggacctcc    240
aaaaaaaaga aaaaggattg gcttggcttc taatgtaagg                          280
```

<210> 979
<211> 318
<212> DNA
<213> Homo sapien

<400> 979
```
ctgtccagat gacagtaaga ttccactgtc tgtaatcctc atggtgccag gtctcctggg     60
gcatctaggg caatgatgct actgcagttt atgcagttac acagtcaagt ctgtgccaaa    120
ggaggtccca tccggcggcc aggtttctgt tcagtctggg gagcaatgcc aactggctgc    180
ccccatagcc tggcatgagc tgatggccca gtgcaatccc aaagcaaaga agggcagaac    240
tgggccaaga agctgtggta atttgctctc cctgcctccg acagcgtcgt cctctccttt    300
tgcagcccca cacgcagg                                                 318
```

<210> 980
<211> 568
<212> DNA
<213> Homo sapien

<400> 980
```
ccagcactgg ctccttgatg gttttcctag gacattagga caagccgaag ccctggacaa     60
aatctgtgaa gtggatctag tgatcagttt gaatattcca tttgaaacac ttaaagatcg    120
tctcagccgc cgttggattc accctcctag cggaagggta tataacctgg acttcaatcc    180
acctcatgta catggtattg atgacgtcac tggtgaaccg ttagtccagc aggaggatga    240
taaacccgaa gcagttgctg ccaggctaag acagtacaaa gacgtggcaa agccagtcat    300
tgaattatac aagagccgag gagtgctcca ccaattttcc ggaacggaga cgaacaaaat    360
ctggccctac gtttacacac ttttctcaaa caagatcaca cctattcagt ccaaagaagc    420
atattgaccc tgcccaatgg gagaaccagg aagatgtggt cattcattca atagtgtgtg    480
tagtattggt gctgtgtcca aattagaagc taactgaggt agcttgcagc atctcttcta    540
gttgaaatgg tgaactgata ggaaaaca                                      568
```

<210> 981
<211> 550

<212> DNA
<213> Homo sapien

<400> 981
```
ccatccccct ttagaacgta tcttaatgtg aacataaatt gttcttcatg atgcttaaaa      60
gcttacatat aattttcatt cttagaaaaa cgccacattt tggatcctgg atttttctga     120
atatcatgat tgaaaaaaac aaaacaaaaa atgaacccaa atcaaagtgt ggttaaactt     180
atatgagaaa gattttcaa ccagatggtc attcaaaaaa gttggagctg taagtgccgg      240
cgactgagga cacagggtta attcctcgct gctggtggaa ggctagagaa catcttcaaa     300
agagggtagc aagacgtgct cctaggggag gctcagtgtg gtctcgtctg cccaagcatt     360
ttcagtcttg cttggtcaat gacatcgagt aagtttttgg catccacagc cagggcgtga     420
gcagcagtca gcatttgctt tttgtactct gctggaggc tggtcatgac atactgctgg       480
gccagtttca tcttgttgat gagctcaccc aggtcagagt tcaatagctt ctgtgccatc     540
tcaatctctc                                                            550
```

<210> 982
<211> 524
<212> DNA
<213> Homo sapien

<400> 982
```
ccaaggtcag aggctgatgc aacaggccct cttctcccca gggccaggct cctgtccagc      60
ctgggcactg cccagagtga tggcattggt ccggatgctg ttctgtctct gcttggacac     120
cttcgcaaag atttctttca ggacagtctc aaaggctagc tcaacattgg tagagtccag     180
ggctgaggtc tccaggaaga gcagtccatt gttttcagcg aacattcggg cctcctcagt     240
gggcacttcc cgggcctggc tgaggtcact tttgttaccc acgagcatga cgacgatcgt     300
ggcttcagca tggtcataga gctccttcag ccatcgctcc accacagcat aggtctggtg     360
cttggttagg tcaaacacca ggagggcccc cactgcacca cgatagtacc cttgaagaca     420
aagttataat cttcctcagt tccattcccc atcttggctc cgcatggagg gtgcaggtgt     480
cttcggggac agaggcgaca aatctgtgtg ttggctcaat gccc                      524
```

<210> 983
<211> 140
<212> DNA
<213> Homo sapien

<400> 983
```
ccttcgtgcc ctaacagcca gtcccctgtt aaagtggaag agacctgtgg ctgccgctgg      60
acctgcccct gtgtgtgcac aggcagctcc actcggcaca tcgtgacctt tgatgggcag     120
aatttcaagc tgactggcag                                                 140
```

<210> 984
<211> 358
<212> DNA
<213> Homo sapien

<400> 984
```
tggagcggcc gcccggcagg tccaacgagt cacaacagtg caataggtag aggattaaaa      60
actgcatcaa acaggtgctg aaaataaata ctacctagga gaaggaggtg agagccctcg     120
tgtggggttt gttttcgacc ccttgagtgt gtgtggggtt tgtcttccga gccacgagcc     180
tggcctgtct cgcggtgctg ttcactctga cagagtgcgc ctgcagcacg ttgcctccag     240
ggcccagcct cccagaagcc tcagagcatc agagcatccg tcccatcgga tggaccagaa     300
acaagaaaat ggggtggggt gaatcacagc tatcattcaa aggaaaggaa ttttttc        358
```

<210> 985
<211> 450
<212> DNA
<213> Homo sapien

<400> 985
ctgacccccc tttgtccaca gctaagatgg cagcagaatg ctatgtcact atatacagaa   60
acaagacaac ctgaagctaa atggatgccc cctgcagagt caacaggtcc agcctcacag   120
tgcacgccct gagctacagc ctctcccaaa aggcatcttc cccacagcct caacgccgag   180
caaggagcat caagggtttg tctcggttgt tttgttcttt ttacaaacta tagatatata   240
cagttgaaaa ctcaggattt ctagccaata accatagtta ccaccacctt acaaataaaa   300
agaaaatgcc agaaacatct ttaaatgcct tgtcacacca acagcaaagt gcacagagtg   360
aggagaacac gagagtgcct tttcatttta aaaatgtttg gaaatatgta caactttgat   420
acagtttcag ggtgctccag acacccatgg   450

<210> 986
<211> 340
<212> DNA
<213> Homo sapien

<400> 986
cctcctgcca gcagttcttg aagcttcttt ttcattcctg ctactctacc tgtatttctc   60
agttgcagca ctgagtggtc aaaatacatt tctgggccac ctcagggaac ccatgcatct   120
gcctggcatt taggcagcag agcccctgac cgtcccccac agggctctgc ctcacgtcct   180
catctcattt ggctgtgtaa agaaatggga aaagggaaaa ggagagagca attgaggcag   240
ttgaccatat ccagttttat ttatttattt ttaatttgtt tttttctcca agtccaccag   300
tctctgaaat tagaacagta ggcggtatga gataatcagg   340

<210> 987
<211> 227
<212> DNA
<213> Homo sapien

<400> 987
ccaatgcccg gagcaggccc tctttccatc ccgtgtcgga tgagctggtc aactatgtca   60
acaaacggaa taccacgtgg caggccgggc acaacttcta caacgtggac atgagctact   120
tgaagaggct atgtggtacc ttcctgggtg ggcccaagcc accccagaga gttatgttta   180
ccgaggacct gaagctgcct gcaagcttcg atgcacggga acaatgg   227

<210> 988
<211> 241
<212> DNA
<213> Homo sapien

<400> 988
cctctttta ccagctccga ggtgattttc atattgaatt gcaaattcga agaagcagct   60
tcaaacctgc cggggcttct cccgcctttt ttcccggcgg cgggagaagt agattgaagc   120
cagttgatta gggtgcttag ctgttaacta agtgtttgtg ggtttaagtc ccattggtct   180
agtaagggct tagcttaatt aaagtggctg atttgcgttc agttgatgca gagtgggttt   240
t   241

<210> 989
<211> 193
<212> DNA

<213> Homo sapien

<400> 989
ccagccgtgt cccagacttg tagtttgatc ttcttcccct ctatatccac agtgcggatc   60
ttgaaatcaa ttccgatggt ggagatgtaa gtgttgttga agttgtcctc tgcaaagcga   120
atgatcagac aagtcttgcc cacccccgag tccccgatca gcagcaactt gaagaggtgg   180
tcgtaggctt tgg   193

<210> 990
<211> 499
<212> DNA
<213> Homo sapien

<400> 990
cctcaaccaa gagggttgat ggcctccagt caagaaactg tggctcatgc cagcagagct   60
ctctcctcct ccagcaggcg ccatgcaagg gcaggctaaa agacctccag tgcatcaaca   120
tccatctagc agagagaaaa ggggcactga agcagctatg tctgccaggg gctaggggct   180
cccttgcaga cagcaatgct acaataaagg acacagaaat gggggaggtg ggggagccct   240
attttttataa caaagtcaaa cagatctgtg cgttcattcc cccagacaca caagtagaaa   300
aaaaccaatg ctgtggtttc tgccaagatg gaatattcct cctcctagtt ccacacatgg   360
cgtttgcaat gctcgacagc attgcactgg ctgctgtct ctgtgttctg gcaccagtag   420
cttgggcccc atatacactt ctcagttccc aacaagggct tatgggccga ggggcaggct   480
ccaattttca agcacacga   499

<210> 991
<211> 262
<212> DNA
<213> Homo sapien

<400> 991
ctgccagcca ggctgtggtc agtcctctgg caggcaatct tcggcaccga gagcctctgt   60
ccattagtgt cagccccgag ggggccacga cggaggccgc ccaatgtcca ctgtgatatt   120
ggtgaagagt ggttgccgag acacctccaa gacctggtac cgcactgacc caatgccgtc   180
ccgcttcatg gtcagcttcg tgtttgaat cttggtaaac ctctgagggt taggttcgtt   240
atgcttgtcg cggtcgtgct tg   262

<210> 992
<211> 535
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(535)
<223> n = A,T,C or G

<400> 992
ctgctgcttg tgaaattcat gtgtggtact aagtacctta catgaattat ttcatttaac   60
cctcccaaca gtctcctttg tacgtgctgn nctctctgcc tggaaacact gtttcccacc   120
cccaacccc aattcttctg tttattttc ttgagacaga gtctcactgt gtagcccaga   180
ctggagtgca gtggcgcgat ctcggctcac tccaatctcc gcctcccggg tccctgttca   240
agcagttctc ctgcctcagc ctcctgagta gctgggatta caggcacacg ccaccatgtc   300
cagctaattt ctgtattttt agtagagatg gggtttcacg atgttggcta ggatggtctc   360
gatctctggt cagagtcttt tctgtaaata tccttggtaa agaagcaatt ttagactgta   420

```
gctgttgcaa   atgctttaag   gaagaagcaa   aacaactgtc   agtcttnctg   aaatgaagaa        480
actacaccag   ggctgctata   tcagagcaac   cccaaccagc   actncaatca   tgatg            535
```

<210> 993
<211> 232
<212> DNA
<213> Homo sapien

<400> 993
```
ctgctgctct   cccctcccag   tctctactca   ctgggatgag   gttaggtcat   gaggacacca        60
aaaacctaaa   aataaacaaa   aagccaaaca   agccttagct   tttcttaaag   gctgaaatgc        120
ctggaagtgt   ccctttattt   ataaaataac   ttttgtcata   tttcttatac   atgtttcttg        180
taagaaattc   agaaactaca   gacaaagaga   gtggaaatta   cccactgtca   gg                232
```

<210> 994
<211> 203
<212> DNA
<213> Homo sapien

<400> 994
```
ccagcagatc   atccacgacg   accaccctct   gtcctggctc   cagggcgtct   ttctgaatct        60
ccagctcagc   cttcccgtac   tccagggaat   aggaggccca   cagagtgggg   cctggcagct        120
tcccccgctt   tcggatgagc   acgcagccca   gtccaagctc   ctgggccagg   gaggggccaa        180
agaggaagcc   tcgggagtct   agg                                                     203
```

<210> 995
<211> 238
<212> DNA
<213> Homo sapien

<400> 995
```
ccatgcctgc   cccgcccact   ctgtatatat   gtaagttaaa   cccgggcagg   ggctgtggcc        60
gtctttgtac   tctggtgatt   tttaaaaatt   gaatctttgt   acttgcattg   attgtataat        120
aattttgaga   ccaggtctcg   ctgtgttgct   caggctggtc   ccaaactcct   gagatcaagc        180
aatccgccca   cctcagcctc   ccaaagtgct   gagatcacag   gcgtgagcca   ccaccagg          238
```

<210> 996
<211> 379
<212> DNA
<213> Homo sapien

<400> 996
```
ctgcagcctg   ggactgaccg   ggaggctctg   accatttacc   caccacaggt   aggttgtgtt        60
ctgaacctca   ggttcacagg   tgaaggccac   agcatccttg   tcctccacgg   ggttggagtt        120
gttgctggag   atggagggct   tgggcagctc   cgggtataca   tggaactgtc   cggttgcttc        180
ttcattcaca   agatctgact   ttatgacttg   tagggtatag   aatcctgtgt   cattctgggt        240
gacgttctgg   atcagcaggg   atgcattggg   gtatattgtc   tctcgaccac   tgtatgcggg        300
ccctggggta   gcttgttgag   ttcctattac   atatcctaca   attagactgt   tgccatccac        360
tctttcgcct   ttgtaccag                                                            379
```

<210> 997
<211> 210
<212> DNA
<213> Homo sapien

<400> 997
ccatccgaag caagattgca gatggcagtg tgaagagaga agacatattc tacacttcaa   60
agctttggtg caattcccat cgaccagagt tggtccgacc agccttggaa aggtcactga   120
aaaatcttca attggattat gttgacctct accttattca ttttccagtg tctgtaaagg   180
ccgtggagaa gtgtaaagat gcaggattgg   210

<210> 998
<211> 207
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(207)
<223> n = A,T,C or G

<400> 998
ggtggctgtg ctgggggcgc cccacaaccc tgctcccccg acgtccaccg tgatccacat   60
ncgcagcgag acctccgtgc ccgaccatgt cgtctggtcc ctgttcaaca ccctcttcat   120
gaacccctgc tgcctgggct tcatagcatt cgcctactcc gtgaagtcta gggacaggaa   180
gatggttggc gacgtgaccg gggccca   207

<210> 999
<211> 315
<212> DNA
<213> Homo sapien

<400> 999
ccaatgggct ttgctgtagc ttgctgaaat caccaagcag gagagattta accagaggcg   60
atgtgtccag tcaccagcat agagccatcc tctgtgtcac catccacacg cagggccttc   120
tggcagacct catgcaatgc cctccatgtt aatattcatc agaaaatgga taattagggg   180
ggccagcaaa aatatcaagg gtcaaatatc gcacatttct gtttaggcca tctatggctt   240
tcatctcctc tgaagtcaac tggaattcaa acacctgcac gttctgtctg atgcgctgct   300
cattgtagct cttgg   315

<210> 1000
<211> 186
<212> DNA
<213> Homo sapien

<400> 1000
ctgttactca agaagatgta tttaatgctt gacaataaga gaaaggaagt agttcacaaa   60
ataatagagt tgctgaatgt cactgaactt acccagaatg ccctgattaa tgatgaacta   120
gtggagtgga agcggagaca gcagagcgcc tgtattgggg ggccgcccaa tgcttgcttg   180
gatcag   186

<210> 1001
<211> 173
<212> DNA
<213> Homo sapien

<400> 1001
ccacaaagcg gaaactcatc cactttgcc ttttccgcc ccaggtcaaa aatgcgaatc   60

```
ttggcatcag ggacacctcg gcagaagcga gactttgggt acggcttgtt cttacaatac      120
cggtaacaac gggcggggcg gcggcccatg gcgacaccag gatcttcagt ggc             173
```

<210> 1002
<211> 302
<212> DNA
<213> Homo sapien

<400> 1002
```
ctgaatgcct gagcccagca gggagctgag gatcatgggg tactgggggg gcctgaagac       60
gtcgccgtgc accaacttcc acccagactc ctccatggtg tcttcaatgt catcctcctt      120
gttgtagttg gcaatgtcct tccggagggt ccgaatgata atcatgctca ggatacctga      180
caggaagaag accacaacaa cggagttaat gatagaaaac cagtggatct ggacgtcact      240
catggtcagg taagtgtccc agcgagaggc ccatttgata tcactttcct cccagtggac      300
ag                                                                    302
```

<210> 1003
<211> 368
<212> DNA
<213> Homo sapien

<400> 1003
```
cctgggcccg ctgacttcag ggtgaggcca cagctactgc agcgcttttt atttatttat       60
ttatttactg agatggagtc ttgctctgtc acccaggctg gagtgcagtg gtgcaatctc      120
ggctcactgc aacctctgcc tcctgggctg cagtgattct cctgcgttca agtaattctc      180
ctgcctcggc cttctgagta gttgggatta caggcatatg ccaccacact tggctaattt      240
tttgtatttt tagtagaaat ggggtttcac catgttggcg aggctggtct cgaactcccg      300
acctcaagga tcctcctgcc tcggcctcct aaggtgctgg gattgcaggt gtgagccacc      360
acgtctgg                                                              368
```

<210> 1004
<211> 294
<212> DNA
<213> Homo sapien

<400> 1004
```
ctgggcggat agcaccgggc atattttgga atggatgagg tctggcaccc tgagcagtcc       60
agcgaggact tggtcttagt tgagcaattt ggctaggagg atagtatgca gcacggttct      120
gagtctgtgg gatagctgcc atgaagtaac ctgaaggagg tgctggctgg tagggttga      180
ttacagggtt gggcacagct cgtacacttg ccattctctg catatactgg ttagtgaggt      240
gagcctggcg ctcttctttg cgctgagcta aagctacata caatggcttt gtgg           294
```

<210> 1005
<211> 414
<212> DNA
<213> Homo sapien

<400> 1005
```
ctgaagcact cttcagagac tacgtccaca gacactgatg ctgaggcctt tcttgtaagt       60
gaagaaaaag gaatgcagca aagaagagtt cgacattgga gtccttagtt ccatcaggat      120
cccattcgca gcctttagca tcatgtagaa gcaaactgca cctatggctg agataggtgc      180
aatgacctac aagattttgt gttttctagc tgtccaggaa aagccatctt cagtcttgct      240
gacagtcaaa gagcaagtga aaccatttcc agcctaaact acataaaagc agccgaacca      300
atgattaaag acctctaagg ctccataatc atcattaaat atgcccaaac tcattgtgac      360
```

```
ttttattttt atatacagga ttaaaatcaa cattaaatca tcttatttac atgg          414
```

<210> 1006
<211> 272
<212> DNA
<213> Homo sapien

<400> 1006
```
ccggagccca cggtggtcat ggctgccaga gcgctctgca tgctgggggct ggtcctggcc    60
ttgctgtcct ccagctctgc tgaggagtac gtgggcctgt ctgcaaacca gtgtgccgtg   120
ccagccaagg acagggtgga ctgcggctac ccccatgtca cccccaagga gtgcaacaac   180
cggggctgct gctttgactc caggatccct ggagtgcctt ggtgtttcaa gcccctgcag   240
gaagcagaat gcaccttctg aggcacctcc ag                                 272
```

<210> 1007
<211> 313
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(313)
<223> n = A,T,C or G

<400> 1007
```
cctgccttac tctnttccct ttccccaggg actcttggtt ttcagaagcc cctctggaat    60
gtcctacctg gcctaacccc ataccagcag tgcagacaag gaggcactcc tactatagtg   120
ggtccagccc atggagagac tcacttcctg ccccaacacc tcttccccta gaccctgagg   180
gccaggacaa tgtcttagtg ccttccaact tggcagagtg aggccccatg agacagagag   240
aaaggggggaa gaggggaaata cctttatcca aataaatacc catccaaaat tatttgtgat   300
aggtgaaaaa tgg                                                      313
```

<210> 1008
<211> 317
<212> DNA
<213> Homo sapien

<400> 1008
```
cctcaatgtc gtgctagagg ggccgaagaa ggccgtgaac gacgtgaatg gcctgaagca    60
atgtttggca gaattcaagc gggatctgga atgggttgaa aggctcgatg tgacactggg   120
tccggtaccg gagatcggtg gatctgaggc gccagcacct cagaacaagg accagaaagc   180
tgttgatcca gaagacgact tccagcgaga gatgagtttc tatcgccaag cccaggccgc   240
agtgcttgca gtcttacccc gcctccatca gctcaaagtc cctaccaagc gacccactga   300
ttattttgcg gaaatgg                                                  317
```

<210> 1009
<211> 456
<212> DNA
<213> Homo sapien

<400> 1009
```
ttttttttgta gggtatagaa aatacatttt taattttgat agagttcaca aatgacagca    60
ttgacatttc tttaaacaaa tacttctgtc aaggcacagc attaccatgt gtccccagat   120
gcccaagagg cagtgatttc atgtcccccct gaggtttagc agagccacca atgtcaatag   180
```

```
ggtggctgac ggggcctaga tttgctacca gataagccaa tgagacatgc tgtcagattt    240
atggttacat aatcaagtat ttaaaaagat gcacaatagg taactgcaat gagcttgttc    300
tgcatttagc gatagttcct ttcaaacaaa gaagatagtt ttcagtatca agaaggatgc    360
ctatatgtat gtcttccatg gagcctttcc tacaaattgc tttcattaca cattaaaagg    420
agttcagctt tattgtgacc ttcttgagtc attcag                              456
```

```
<210> 1010
<211> 196
<212> DNA
<213> Homo sapien
```

```
<400> 1010
ctgggcatgg gctgaggaga ggtcttgctt gcccccttca actttccatc tcagaactat     60
aaactgctag gctgcaagga gagaagggct aagtgggggt cagacaggag agaagggcag    120
gaggcagtga gccccgatga cccaccaact ccaccaggcc ctgacaggga agccccttg     180
gttagtatca ttttgg                                                    196
```

```
<210> 1011
<211> 449
<212> DNA
<213> Homo sapien
```

```
<400> 1011
ccttgcggct gctgcgaaag gccacggcgc tgcctgcccg ccgggccgag tactttgatg     60
gttcagagcc cgtgcagaac cgcgtgtaca agtcactgaa ggtctggtcc atgctcgccg    120
acctgaagga gagcctcggc accttccagt ccaccaaggc cgtgtacgac cgcatcctgg    180
acctgcgtat cgcaacaccc cagatcgtca tcaactatgc catgttcctg gaggagcaca    240
agtacttcga ggagagcttc aaggcgtacg agcgcggcat ctcgctgttc aagtggccca    300
acgtgtccga catctggagc acctacctga ccaaattcat tgcccgctat ggggggccgca    360
agctggagcg ggcacgggac ctgtttgaac aggctctgga cggctgcccc ccaaaatatg    420
ccaagacctt gtacctgctg tatgcacag                                      449
```

```
<210> 1012
<211> 289
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(289)
<223> n = A,T,C or G
```

```
<400> 1012
ccaggaccac aaccccacgc tgtagctggt agcgcagggc aatcagggct ggggttcgct     60
tgtgcttttt tgccaaggca caaaggactg ggtcctccaa gagcaccggg gagttcgggt    120
ccacccatgg ttcttctcgg tgggatccca gagcactata ggcaaccaga acaatgtctt    180
ttgacttgca gaaatccagc agttttctct ggttgaagta aggatgacat tccacctggt    240
tgcagacagg cttgtacttg agccctggct tgtnnaggat catctccag               289
```

```
<210> 1013
<211> 221
<212> DNA
<213> Homo sapien
```

<220>
<221> misc_feature
<222> (1)...(221)
<223> n = A,T,C or G

<400> 1013
tctgtaaatg ctgcgttcct aatttagtaa aataaaagaa tagacactaa aatcatgttg   60
atctataatt acacctatgg gatcaataag catgtcanna ctgattaatg tctactgtaa   120
aaatttggta gnnaaatttt catttgatat tagatataaa tatctgaata taaataattn   180
taatatacta gtcatgatgt gtgttgtatt ttaaaaatta t   221

<210> 1014
<211> 512
<212> DNA
<213> Homo sapien

<400> 1014
gggcccccga agcctctaca atgggctggt tgccggcctg cagcgccaaa tgagctttgc   60
ctctgtccgc atcggcctgt atgattctgt caaacagttc tacaccaagg gctctgagca   120
tgccagcatt gggagccgcc tcctagcagg cagcaccaca ggtgccctgg ctgtggctgt   180
ggcccagccc acggatgtgg taaaggtccg attccaagct caggcccggg ctggaggtgg   240
tcggagatac caaagcaccg tcaatgccta caagaccatt gcccgagagg aagggttccg   300
gggcctctgg aaagggacct ctcccaatgt tgctcgtaat gccattgtca actgtgctga   360
gccggcgacc tatgacctca tcaaggatgc cctcctgaaa gccaacctca tgacagatga   420
cctcccttgc cacttcactt ctgcctttgg ggcaggcttc tgcaccactg tcatcgcctc   480
ccctgtagac gtggtcaaga cgagatacat ga   512

<210> 1015
<211> 553
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(553)
<223> n = A,T,C or G

<400> 1015
ctgggcagga agattatgat cgcccgaggc ccctctccta cccagatacc gatgttatac   60
tgatgtgttt ttccatcgac agccctgata gttcagaaaa catcccagaa aagtggaccc   120
cagaagtcaa gcatttctgt cccgacgtgc ccatcatcct ggttgggaat aagaaggatc   180
ttcggaatga tgagcacaca aggcgggagc tagccaagat gaagcaggag ccggtgaaac   240
ctgaagaagg cagagatatg gcaaacagga ttggcgcctt tgggtacatg gagtgctcag   300
caaagaccag agatggagtg agagaggttt ttgaaatggc tacgagagct gctctgcaag   360
ctagacgtgg gaagaaaaaa tctgggtgcc ttgtcttgtg aaaccttgct gcaagcacag   420
cccttatgcg gttaattttg aagtgctgtt tattaatctt agtgtatgat tactggcctt   480
tttcatttat ctataattta cctaagatta caaatcanga agtcatcttg ctaccagtat   540
ttagaagcca act   553

<210> 1016
<211> 431
<212> DNA
<213> Homo sapien

<400> 1016
```
ccacttcaca tgatggcggg cctttaagag cacaaagaag tttaatatgg acaacaacag       60
gaaaaagcaa gaagaaaaca agtagggaaa gacagctaac ctggagagag agaatttctt      120
taacctttat gttcttcatt aaaaatctta tcttggactg atttgaggga ttttttagaaa     180
catggcctta ttttatataa gcattacctt cccaggaatc tttgttgtat attaattttt     240
gataaccatt tgattaactt taaaattaag tatatgtgtg tatatataca tatgtatgtt     300
tatatacaca catgtatctg tatagtttta tatatacata tatacacata gacatacaga     360
gaaccactac tttgtaatag tgtacagttt gttttatatc tctttacttt ttttgttact     420
attttatctg t                                                          431
```

<210> 1017
<211> 490
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(490)
<223> n = A,T,C or G

<400> 1017
```
ctggaagaac aaggcgaagt tctggtggct gtctgcgatg aatgtgccct tggctttggc       60
tgggtatgtc acccgggtag ttttgggtgc aatgctctga tccttatcca cggtggaaag      120
atcaacattt gtgatgccaa cttcagtgga gatcttgact ctgagctcta cggtatttgc     180
aatataccgg ttgtcacctt caacttcgac aaggaagtca taataaccac tggaaaattt     240
gacgttcatg aaatttagtt caaaaacatc ccctacaggg gtgaaggatg tcttctggag     300
gacagtggct ctggaagcaa cagatttagc atgttctagt ttaacagtgg cctgagtcag     360
aggctgagac agaacattgg tgacttgcaa ccgcaagata gcctgttcat gagtgtcgga     420
agcagancccc tcangcacaa ccacaactgg cacgtggtag cgattatgcg agagcacagg     480
cagacctcgg                                                            490
```

<210> 1018
<211> 503
<212> DNA
<213> Homo sapien

<400> 1018
```
ggagtaagct gagtacaagt accatagcag cagagctgca aaaggtcttg ggacctatag       60
tcctaatgca agataaggtc atggggccta aggccatggg gcctgaggca cccctagacc      120
ctgagccttc agcatttaag ggagggtgtc cccccattct cgataggcca tggtacacag     180
atgggtctag ccgaggtgct ataactgctt ggaccactgt tgcagtccaa cctagtactg     240
acactatatg gtttgaaacc cggtgtggac aaagtagcca atgggctgaa cttagagcag     300
tgtggatggt gatcaccaag gaggtgacac tgatggtaat ctgtatcaat agctgggtgg     360
tctaccaagg cttaactttg tggttaacta cctggaaaat acagaagttg ctagtcggcc     420
accaacccat ttggggtcaa gccacgtggc aagacctctg ggaaatgggt catcagaaac     480
aggtaaccgt ttatcatgtg tca                                             503
```

<210> 1019
<211> 348
<212> DNA
<213> Homo sapien

<400> 1019
```
cctgtgtatg gagtagaggc gggtgcacgg gtactgttcc tcacggcagt caagaggccc       60
```

```
aggctctgtg ggctccagct ctgcatttcc cggttctggg gttggggctg ggatgacttc      120
ctgttggact tgctgctggg actggaactg gaactgttcc tcggagggcc gaggagtcac      180
ctcttgataa tcatagtagt ctgggttgtc gatctggtcg ctatagtggg tgtactggac      240
gtggtcaggg aacggcggca gcgggtccag gtcatactgg ccctgagcca gcaagcctgc      300
aggcaggaat agcaggaaga ggtaggcagc tctcatggca acaaagag                   348
```

<210> 1020
<211> 260
<212> DNA
<213> Homo sapien

<400> 1020
```
ccacacggcg accgagggac agatgggggcc ctgcgtccca taggctgcct gaaggtgggt      60
agggcggcct gcggcatagt ggggtggctg tgggctccca gcctggcccc tgggaaccgt      120
gggagcacag ggacaagcac atggctatgg aatgcagggt gacccaagga caagcgagtt      180
gcgggatct ctactgtgac catgcagaat tgatcgcagt ctgctgcgcc accaccacct       240
catgttcccg aggggaacag                                                  260
```

<210> 1021
<211> 407
<212> DNA
<213> Homo sapien

<400> 1021
```
ccttatgact ataacggccc acgagaaaaa tatggaatcg ttgattacat gatcgagcag      60
tccgggcctc cctccaagga gattctgacc ctgaagcagg tccaggagtt cctgaaggat      120
ggagacgatg tcatcatcat cggggtcttt aaggggggaga gtgacccagc ctaccagcaa     180
taccaggatg ccgctaacaa cctgagagaa gattacaaat ttcaccacac tttcagcaca      240
gaaatagcaa agttcttgaa agtctcccag gggcagttgg ttgtaatgca gcctgagaaa      300
ttccagtcca agtatgagcc ccggagccac atgatggacg tccagggctc cacccaggac      360
tcggccatca aggacttcgt gctgaagtac gccctgcccc tggttgg                    407
```

<210> 1022
<211> 140
<212> DNA
<213> Homo sapien

<400> 1022
```
ccacccccaga gtgggagagg ctgggaggtt gggaggctgt ggagagaagt gagcaaggtg      60
ctcttgaacc tgtgctcatt ttgcaatttt atcagtaatt tgacttagag tttttacgaa      120
acctcttttg ttgtccttgc                                                  140
```

<210> 1023
<211> 280
<212> DNA
<213> Homo sapien

<400> 1023
```
ctggaggtgc ctcagaaggt gcattctgct tcctgcaggg gcttgaaaca ccaaggcact      60
ccagggatcc tggagtcaaa gcagcagccc cggttgttgc actccttggg ggtgacatgg      120
gggtagccgc agtccaccct gtccttggct ggcacggcac actggtttgc agacaggccc      180
gcgtactcct cagcagagct ggaggacagc aaggccagga ccagccccag catgcagagc      240
gctctggcag ccatgaccac cgtgggctcc gggacgcagc                            280
```

<210> 1024
<211> 274
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(274)
<223> n = A,T,C or G

<400> 1024
cctggctgag caggcagagc accctgggac cccagggcag aaggacccct gccctccagt   60
ccccaagacc caggcccgtc tccactcata cacgccacct acatgtgacg tcagccctga   120
aaaggtaaca ggaaagttca gaacaaaaac aaaaccccaa aagtaaaaag gctacgtgta   180
gcagagtaat accggaaacg ttatatacac aggcggtgat ggcccctcg gaagtgtccg   240
ggtcacttag ggggcactgc anaggtccct gtgg   274

<210> 1025
<211> 446
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(446)
<223> n = A,T,C or G

<400> 1025
gcaaagagtg tactgtgctt gaggcagagc actcacacat aaatggctgt gtgtggaatt   60
gcttgccaaa gaagtttcta gcctttccct ttcccctaac tgcatcaggg aagaattctt   120
atctctagct tggtttccac atgaggtttt tctgagaagg gcttgggaca agaagtctgt   180
catgttagtt aagcaggcaa gaaatcctac taatccagtt ttgtttgaaa gttgtttgtc   240
cgtatgattt tttaaaagtc aagtttaatt tcaaaaaacc tttttttct gagattactt   300
ttggggtaat atttaaaatg agagacattt tgtaaccctg taaaatacat agggaatata   360
acattccagt gtatacaaag aaggcaaatt ctttaatcaa ataaagcgca ttataaaatc   420
aaaaaanaaa naaaaaaaan aaaaaa   446

<210> 1026
<211> 189
<212> DNA
<213> Homo sapien

<400> 1026
ctgtgagaga gatgctcaat atgccccagg ctatgacaaa gtcaaggaca tctcagaggt   60
ggtcacccct cggttccttt gtactggagg agtgagtccc tatgctgacc ccaatacttg   120
cagaggtgat tctggcggcc ccttgatagt tcacaagaga agtcgtttca ttcaagttgg   180
tgtaatcag   189

<210> 1027
<211> 92
<212> DNA
<213> Homo sapien

<400> 1027

```
ccagaccctc cttagtacag gatctcggac cacaaaccaa ggagtctcgt ggccttggat        60
tcccagaccc taggatggta tccctctgac ag                                     92


<210> 1028
<211> 438
<212> DNA
<213> Homo sapien


<400> 1028
ctgaaaagcc atctttgcat tgttcctcat ccgcctcctt gctcgccgca gccgcctccg        60
ccgcgcgcct cctccgccgc cgcggactcc ggcagcttta tcgccagagt ccctgaactc       120
tcgctttctt tttaatcccc tgcatcggat caccggcgtg ccccaccatg tcagacgcag       180
ccgtagacac cagctccgaa atcaccacca aggacttaaa ggagaagaag gaagttgtgg       240
aagaggcaga aaatggaaga gacgcccctg ctaacgggaa tgctaatgag gaaaatgggg       300
agcaggaggc tgacaatgag gtagacgaag aagaggaaga aggtggggag gaagaggagg       360
aggaagaaga aggtgatggt gaggaagagg atggagatga agatgaggaa gctgagtcag       420
ctacgggcaa gcgggcag                                                    438


<210> 1029
<211> 330
<212> DNA
<213> Homo sapien


<400> 1029
ccagccgcat gggagtggag gcagtcatcg ccttgctaga ggccaccccg gacaccccag        60
cttgcgtcgt gtcactgaac gggaaccacg ccgtgcgcct gccgctgatg gagtgcgtgc       120
agatgactca ggatgtgcag aaggcgatgg acgagaggag atttcaagat gcggttcgac       180
tccgagggag gagctttgcg ggcaacctga acacctacaa gcgacttgcc atcaagctgc       240
cggatgatca gatcccaaag accaatcgca acgtagctgt catcaacgtg ggggcacccg       300
cggctgggat gaacgcggcc gtacgctcag                                       330


<210> 1030
<211> 228
<212> DNA
<213> Homo sapien


<400> 1030
ctggagactc tgggccagga gaagctgaag ctggaggcgg agcttggcaa catgcagggg        60
ctggtggagg acttcaagaa caagtatgag gatgagatca ataagcgtac agagatggag       120
aacgaatttg tcctcatcaa gaaggatgtg gatgaagctt acatgaacaa ggtagagctg       180
gagtctcgcc tggaagggct gaccgacgag atcaacttcc tcaggcag                   228


<210> 1031
<211> 294
<212> DNA
<213> Homo sapien


<400> 1031
ccacaaagcc attgtatgta gctttagctc agcgcaaaga agagcgccag gctcacctca        60
ctaaccagta tatgcagaga atggcaagtg tacgagctgt gcccaaccct gtaatcaacc       120
cctaccagcc agcacctcct tcaggttact tcatggcagc tatcccacag actcagaacc       180
gtgctgcata ctatcctcct agccaaattg ctcaactaag accaagtccc cgctggactg       240
ctcagggtgc cagacctcat ccattccaaa atatgcccgg tgctatccgc ccag           294
```

<210> 1032
<211> 278
<212> DNA
<213> Homo sapien

<400> 1032
ggaggtatta cagacagcac tgcactttgg agttgggcag ctacatcgag gacctctttg   60
tggtccacag tgacctctcc agcattgtga tcctggataa ctccccaggg gcttacagga   120
gccatccaga caatgccatc cccatcaaat cctggttcag tgaccccagc gacacagccc   180
ttctcaacct gctcccaatg ctgggtgccc tcaggttcac cgctgatgtt cgttccgtgc   240
tgagccgaaa ccttcaccaa catcggctct ggtgacgg   278

<210> 1033
<211> 155
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(155)
<223> n = A,T,C or G

<400> 1033
cgcgttcanc catgttnaaa ccgattgcat naacttcgaa accggcccgc ccgccggcgc   60
ctggagaggg gcanngggag aagcagagag tttatcattc atctgtacac atagacgttt   120
cttctttaaa taacaccacg ggcgggagcc ccatc   155

<210> 1034
<211> 401
<212> DNA
<213> Homo sapien

<400> 1034
ctggaccagc accccattga cgggtacctc tcccacaccg agctggctcc actgcgtgct   60
cccctcatcc ccatggagca ttgcaccacc cgcttttcg agacctgtga cctggacaat   120
gacaagtaca tcgccctgga tgagtgggcc ggctgcttcg gcatcaagca gaaggatatc   180
gacaaggatc ttgtgatcta aatccactcc ttccacagta ccggattctc tctttaaccc   240
tccccttcgt gtttcccca atgtttaaaa tgtttggatg gtttgttgtt ctgcctggag   300
acaaggtgct aacatagatt taagtgaata cattaacggt gctaaaaatg aaaattctaa   360
cccaagacat gacattctta gctgtaactt aactattaag g   401

<210> 1035
<211> 333
<212> DNA
<213> Homo sapien

<400> 1035
ctgagctggg ggttgaattt ctccaggcac tccctggaga gaggacccag tgacttgtcc   60
aagtttacac acgacactaa tctcccctgg ggaggaagcg ggaagccagc caggttgaac   120
tgtagcgagg ccccccaggcc gccaggaatg gaccatgcag atcactgtca gtggagggaa   180
gctgctgact gtgattaggt gctggggtct tagcgtccag cgcagcccgg gggcatcctg   240
gaggctctgc tccttagggc atggtagtca ccgcgaagcc gggcaccgtc ccacagcatc   300
tcctagaagc agccggcaca ggagggaagg tgg   333

<210> 1036
<211> 198
<212> DNA
<213> Homo sapien

<400> 1036
```
ccaatgtaca tggtggacta tgccggcctg aacgtgcagc tcccgggacc tcttaattac    60
tagacctcag tactgaatca ggacctcact cagaaagact aaaggaaatg taatttatgt   120
acaaaatgta tattcggata tgtatcgatg ccttttagtt tttccaatga tttttacact   180
atattcctgc caccaagg                                                 198
```

<210> 1037
<211> 289
<212> DNA
<213> Homo sapien

<400> 1037
```
ctggagatga tcctcaacaa gccagggctc aagtacaagc ctgtctgcaa ccaggtggaa    60
tgtcatcctt acttcaacca gagaaaactg ctggatttct gcaagtcaaa agacattgtt   120
ctggttgcct atagtgctct gggatcccac cgagaagaac catgggtgga cccgaactcc   180
ccggtgctct tggaggaccc agtcctttgt gccttggcaa aaaagcacaa gcgaacccca   240
gccctgattg ccctgcgcta ccagctacag cgtggggttg tggtcctgg                289
```

<210> 1038
<211> 368
<212> DNA
<213> Homo sapien

<400> 1038
```
ccagacgtgg tggctcacac ctgcaatccc agcaccttag gaggccgagg caggaggatc    60
cttgaggtca ggagttcgag accagcctcg ccaacatggt gaaaccccat ttctactaaa   120
aatacaaaaa attagccaag tgtggtggca tatgcctgta atcccaacta ctcagaaggc   180
cgaggcagga gaattacttg aacgcaggag aatcactgca gcccaggagg cagaggttgc   240
agtgagccga gattgcacca ctgcactcca gcctgggtga cagagcaaga ctccatctca   300
gtaaataaat aaataaataa aaagcgctgc agtagctgtg gcctcaccct gaagtcagcg   360
ggcccagg                                                           368
```

<210> 1039
<211> 417
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(417)
<223> n = A,T,C or G

<400> 1039
```
ctgggcctat gctggtcatg aacggtcctg gaaaatgact cccttccttc agtatctgca    60
tcctcatgaa gtcattcatt ttggagatcg tgtcttcact tttcttggtg aagaaactgc   120
tggatggagt tgttggtggc atctgaggag tccgaagatg gctctcaggg aaggttgtgc   180
tggcctctga aggatttgga agctgactct gttcctgggg tagctnnatg ctcttggggt   240
cattgnttct cgggtttgnt tttttcttta tctggataaa actatgcatt tctgaaatca   300
gttttgacat ctggttcttt tttcctaagt cgaaagcaga aaagttggaa gcttatctcc   360
```

ttcttcacag ggggatattg tggacattgn nctgtcccca ctacatccat ttttcct   417

<210> 1040
<211> 409
<212> DNA
<213> Homo sapien

<400> 1040
ctgtccaatg gcaacaggac cctcactcca ttcaatgtca caagaaatga cgcaagagcc   60
tatgtatgtg gaatccagaa ctcagtgagt gcaaaccgca gtgacccagt caccctggat   120
gtcctctatg ggccggacac ccccatcatt tcccccccag actcgtctta cctttcggga   180
gcgaacctca acctctcctg ccactcggcc tctaacccat ccccgcagta ttcttggcgt   240
atcaatggga taccgcagca acacacacaa gttctcttta tcgccaaaat cacgccaaat   300
aataacggga cctatgcctg ttttgtctct aacttggcta ctggccgcaa taattccata   360
gtcaagagca tcacagtctc tgcatctgga acttctcctg gtctctcag   409

<210> 1041
<211> 492
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(492)
<223> n = A,T,C or G

<400> 1041
cctcggctcc acacctccgc tgtgaccaca gcctcaggtc aagctgtgct ggggccatcc   60
accttccttt gccatttaga agatggggct tggagcttgg caacacagaa attgacatca   120
gccttataaa accttggctg aacctaccga cctccaggag aatttcagcc aaaacaaaaa   180
agcaaataca cagagggacc ctggaaccag aatccctccc catgggaaag acgaaggcac   240
agagattcga gccaagtttc ccaacatgtt ggtgtttgca gaaaagtccg tcacgtcac   300
acacagcaca gaggcaagaa gcgaaggcag tggcattcac aggactactt tatattaaag   360
tttattacat ttggaaaatc tactgtacag ggaaaaaccc attggattaa gtagagtttt   420
gccaaaagca aaagactatc actctttgga aaatattcct gattccagcc canggcccag   480
ggtggggcca ca   492

<210> 1042
<211> 125
<212> DNA
<213> Homo sapien

<400> 1042
cctggctctg atccagtgac ccctctcacc aaagaactcg gtttaaccag ggctctgtaa   60
gaccactccc acccagagac ttgtgtggcc tggtgtggcc tgtgtgtcgg attccttcct   120
gtcag   125

<210> 1043
<211> 459
<212> DNA
<213> Homo sapien

<400> 1043
ccagcctgga gataagggtg aaggtggtgc ccccggactt ccaggtatag ctggacctcg   60

```
tggtagccct ggtgagagag gtgaaactgg ccctccagga cctgctggtt tccctggtgc    120
tcctggacag aatggtgaac ctggtggtaa gggagaaaga ggggctccgg gtgagaaagg    180
tgaaggaggc cctcctggag ttgcaggacc ccctggaggt tctggacctg ctggtcctcc    240
tggtccccaa ggtgtcaaag gtgaacgtgg cagtcctggt ggacctggtg ctgctggctt    300
ccctggtgct cgtggtcttc ctggtcctcc tggtagtaat ggtaacccag accccccagg    360
tcccagcggt tctccaggca aggatgggcc cccaggtcct gcgggtaaca ctggtgctcc    420
tggcagccct ggagtgtctg gaccaaaagg tgatgctgg                           459
```

<210> 1044
<211> 368
<212> DNA
<213> Homo sapien

<400> 1044
```
cctgggcccg ctgacttcag ggtgaggcca cagctactgc agcgcttttt atttatttat     60
ttatttactg agatggagtc ttgctctgtc acccaggctg gagtgcagtg gtgcaatctc    120
ggctcactgc aacctctgcc tcctgggctg cagtgattct cctgcgttca agtaattctc    180
ctgcctcggc cttctgagta gttgggatta caggcatatg ccaccacact tggctaattt    240
tttgtatttt tagtagaaat ggggtttcac catgttggcg aggctggtct cgaactcctg    300
acctcaagga tcctcctgcc tcggcctcct aaggtgctgg gattgcaggt gtgagccacc    360
acgtctgg                                                            368
```

<210> 1045
<211> 315
<212> DNA
<213> Homo sapien

<400> 1045
```
ccaatgggct ttgctgtagc ttgctgaaat caccaagcag gagagattta accagaggcg     60
atgtgtccag tcaccagcat agagccatcc tctgtgtcac catccacacg cagggcctcc    120
tggcagacct catgcaatgc cctccatgtt aatattcatc agaaaatgga taattagggg    180
ggccagcaaa aatatcaagg gtcaaatatc gcacatttct gtttaggcca tctatggctt    240
tcatctcctc tgaagtcaac tggaattcaa acacctgcac gttctgtctg atgcgctgct    300
cattgtagct cttgg                                                    315
```

<210> 1046
<211> 317
<212> DNA
<213> Homo sapien

<400> 1046
```
cctcgcctgg agggccccgg gcagcacagg gaggacgagc ttgtccagca gagggtctgg     60
cagagggtcc cgcagaggtt tgggcagggg gtctgacatc cctggctcct gctctggctc    120
tggctgccgg gatttgcaca ggcccaggtg catacagatg ccgtttgagt caatctggtt    180
ctggaagtag tcgatgacca gggggaagta gtcgtcaagc acttggttgc actgggcat    240
gagcagcttc aaggggagga cgttgcactc ctgctccagg aacttcctca ccgtgtcctg    300
gaaaatggcc tccttgg                                                  317
```

<210> 1047
<211> 412
<212> DNA
<213> Homo sapien

<220>

```
<221> misc_feature
<222> (1)...(412)
<223> n = A,T,C or G

<400> 1047
gtacaagctt tttttttttt tttttttttt tttgtttaat gcttgaactt tattttggag    60
agagaaattt agaaagacac aaggtacaca gagtaaaatg tttttctttt ttcaggacct   120
tgaactgaat cttgcactgc tttggtttct atctaggaag ctcagcgaca gcagagtctg   180
tanaggcggc cactgatttc acacaccccg gagagggact cacgggtagc acaacggccg   240
gttcggcaat agcaggtggc tcttgcctga naacctgagg ttctaanagc ananagtcca   300
tttcctgcaa aggagatagc aaggtcctgg ttgtcttccc canactgctt ctgggttgta   360
gcctcatcag ctctttcctg gagtgactca gcctgggcct gcagggccac ca           412


<210> 1048
<211> 476
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(476)
<223> n = A,T,C or G

<400> 1048
taaaaaaagg aaaaagtttt attacgaaac tagtttgtat aaaacagggt tatacatatt    60
tttgtaagtt tgtaataaaa cagtaagaaa aaaaggcagt aatagaaatc tccaaaaggc   120
aacctatcaa aaccaactgg ctgccacttt gagtttggac agtagctgca taaactttgt   180
tcttcttgaa cagtatttaa taacatcatt aatacattaa caacatttct ataaagtaag   240
acacattggt gctgaagtac aactggnggc ctcttgatct cacctatgag gagagttctt   300
tacaaaacca catagggaaa attgcagttg taaggngaac tacncatcta aaatatgcan   360
aggtaatagc attacatgtt aaaggtatca agggnatata cacattttaa accatttgnn   420
acaaaacttn tataaaattt ntttctctct ctttctctct tatgcacaaa aaatat       476


<210> 1049
<211> 274
<212> DNA
<213> Homo sapien

<400> 1049
cctggctgag caggcagagc accctgggac cccagggcag aaggacccct gccctccagt    60
ccccaagacc caggcccgtc tccactcata cacgccacct acatgtgacg tcagccctga   120
aaaggtaaca ggaaagttca gaacaaaaac aaaaccccaa aagtaaaaag gctacgtgta   180
gcagagtaat accggaaacg ttatatacac aggcggtgat ggccccctcg gaagtgtccg   240
ggtcacttag ggggcactgc agaggtccct gtgg                                274


<210> 1050
<211> 472
<212> DNA
<213> Homo sapien

<400> 1050
ctgcagcctg ggactgaccg ggaggctctg attatttacc caccacaggt aggttgtgtt    60
ctgaatctca ggttcacagg ttaaggctac agcatcctca tcctccacgg ggttggagtt   120
gttgctggtg atgaagggtt tgggtggctc tgcatagact gtgatcgtcg tgactgtggt   180
```

```
cctattgagg ccagtgtctg agttatgggc ttggcacgta taggatccac tattattcac    240
agtgatgttg gggataaaga gctcttgggt ggattgctgg aaagtcccat tgacaaacca    300
agagtactgt gcaggtgggt tagaggctgc gtggcaggag aggttcagat tttcccctga    360
tctgtaagat gtgtttagag gggaaatggt gggggcatcc gggccataga ggacattcag    420
gatgactgaa tcactgcgcc tggcactcac tgggttctgg gtttcacatt tg            472
```

<210> 1051
<211> 249
<212> DNA
<213> Homo sapien

<400> 1051
```
ccaccaaccg tggcatcacg cgaatccggg gcaccagcta ccagagccct cacggcatcc     60
ccatagacct gctggaccgg ctgcttatcg tctccaccac cccctacagc gagaaagaca    120
cgaagcagat cctccgcatc cggtgcgagg aagaagatgt ggagatgagt gaggacgcct    180
acacggtgct gacccgcatc gggctggaga cgtcactgcg ctacgccatc cagctcatca    240
cagacctgc                                                           249
```

<210> 1052
<211> 289
<212> DNA
<213> Homo sapien

<400> 1052
```
ccaggaccac aaccccacgc tgtagctggt agcgcagggc aatcagggct ggggttcgct     60
tgtgcttttt tgccaaggca caaaggactg ggtcctccaa gagcaccggg gagttcgggt    120
ccacccatcg tttgtctcgt tgagatccca gagcactata ggcaaccaga acaatatctt    180
tcgacttgca gaaatctagc aatttactcc ggttgaaata cggatgacat tctacctggt    240
tgcagacagg cttgtacttg agtcctggct tgttgaggat catctccag               289
```

<210> 1053
<211> 199
<212> DNA
<213> Homo sapien

<400> 1053
```
ccacgactgc atgcccgcgc ccgccaggtg atacctccgc cggtgaccca ggggctctgc     60
gacacaagga gtctgcatgt ctaagtgcta gacatgctca gctttgtgga tacgcggact    120
ttgttgctgc ttgcagtaac cttatgccta gcaacatgcc aatctttaca agaggaaacc    180
gtaagaaagg gcccagccg                                                199
```

<210> 1054
<211> 224
<212> DNA
<213> Homo sapien

<400> 1054
```
tcgaccctgt gaagcaggag acagatgctg cattttcact gttgtttgtc ctctgttttt     60
gtagcatccc cgggaacttc cccatcagcc aggggcttgt ccccaccacc cttcacctgg    120
ctttccagtt ggctgagacg ctgcttcatc ttcatctggg tggcgttgta ctcagccagg    180
aggcgtgcaa acctggtctg cagggcgtcc agggaggacc ccag                     224
```

<210> 1055
<211> 390

```
<212> DNA
<213> Homo sapien

<400> 1055
cctcttatta gggctctggt agcggcggcg gcggacccct ggggtctgga cgcaacggcg      60
gcgggagcat gaacgcccct ccagccttcg agtcgttctt gctcttcgag ggcgagaaga     120
agatcaccat taacaaggac accaaggtac ccaatgcctg tttattcacc atcaacaaag     180
aagaccacac actgggaaac atcattaaat cacaactcct aaaagacccg caagtgctat     240
ttgctggcta caaagtcccc caccccttgg agcacaagat catcatccga gtgcagacca     300
cgccggacta cagcccccag gaagcctttg ccaacgccat caccgacctc atcagtgagc     360
tgtccctgct ggaggagcgc tttcgggtgg                                      390


<210> 1056
<211> 450
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(450)
<223> n = A,T,C or G

<400> 1056
ccagcatcac cttttggtcc nnacactcca gggctgccag gagcaccagt gttacccgca      60
ggacctgggg gcccatcctt gcctggagaa ccgctgggac ctgggggtcc tgggttacca     120
ttactaccag gaggaccagg aagaccacga gcaccaggga agccagcagc accaggtcca     180
ccaggactgc cacgttcacc tttgacacct ggggaccag gaggaccagn angtccagaa     240
cctccagggg gtcctgcaac tccaggaggg cctccttcac ctttctcacc cggagcccct     300
ctttctcctt taccaccagg ttcaccattc tgtccaggag caccaggaa accagcaggt     360
cctggagggc cagtttnacc tctctcacca nggctaccac gaggtccagc tatacctgga     420
agtccggggg caccaccttc acccttacct                                      450


<210> 1057
<211> 337
<212> DNA
<213> Homo sapien


<400> 1057
tgagcggccg cccggcaggt cctcgcctgg agggccccgg gcagcacagg gaggacgagc      60
ttgtccagca gagggtctgg cagagggtcc cgcagaggtt tgggcagggg gtctgacatc     120
cctggctcct gctctggctc tggctgccgg gatttgcaca ggcccaggtg catacagatg     180
ccgtttgagt caatctggtt ctggaagtag tcgatgacca gggggaagta gtcgtcaagc     240
acttggttgc actggggcat gagcagcttc aaggggagga cgttgcactc ctgctccagg     300
aacttcctca tcgtgtcctg gaaaatggcc tccttgg                              337


<210> 1058
<211> 237
<212> DNA
<213> Homo sapien


<400> 1058
ctggggactg ggaatgctag catatggtat ctcaagttgg ctctcagaac taaacgggga      60
taagggccta gaatggaaga gggaaccagc cagaccctca gtccttcctg tcctggactg     120
ggagccacag atgtccctgt gatctgtcac tgccctgatc tgggtcttca gccattaaag     180
```

ctcagtgtca tcttcagtca ccaacggggg tcttggtgtc cttccaaacc cctttgg   237

<210> 1059
<211> 210
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(210)
<223> n = A,T,C or G

<400> 1059
agcccatccc cccggctccc tcctagtctg ccctgcgtcc tctgtccccg ggtttcagag   60
acaacttccc aaagcacaaa gcagtttttc cccctagggg tgggaggaag caaaagactc   120
tgtacctact ttgtatgtgt ataataattt gagatgtttt taattattnn gattgctgga   180
ataaagcatg tggaaatgac ccaaaaaaaa   210

<210> 1060
<211> 564
<212> DNA
<213> Homo sapien

<400> 1060
ctggccacag agcccagcaa gtccttcctg ggagagaaga gttagggctg atactgaagg   60
tctctttcac atctgggcac acgtctgcct tcaggctgta agaatttcat ttgtcgattg   120
ttaaataaaa ccaggagaaa gcaatgcagg tctctgggaa tctcatccct tccataagga   180
aaatgctctg ccaattcaag tttcattcag tcaggaagac agaaggattt aaggcttcgg   240
tgacaattat aatcctctga gaaattattt ccccttaaag tcaagataag ataatagtgt   300
ttactgtact ttctcttgac tcttgaaatc cctggtattg ggtgtaggca acttgcacct   360
gcaatgaagt ccgcaggaga ggaaggtctc tcctcccccg aaagctatcc caggtcacat   420
gcgtggcgaa tgcccactga acctcggctc tcatggaagc aggaaagaca ccgagattca   480
agccttctag taggttgagg acgctgtgct catggcatct tcggagattt tggtactggc   540
aggggtggat gcttgcaaaa tact   564

<210> 1061
<211> 267
<212> DNA
<213> Homo sapien

<400> 1061
cctatggagg tgcctatgat gtcatgagct ctaagcacct ttgtggtgat accaactatg   60
cctggcccac cgcagagatt gcggtcatgg gagcaaaggg cgctgtggag atcatcttca   120
aagggcatga gaatgtggaa gctgctcagg cagagtacat cgagaagttt gccaacccctt   180
tccctgcagc agtgcgaggg tttgtggatg acatcatcca accttcttcc acacgtgccc   240
gaatctgctg tgacctggat gtcttgg   267

<210> 1062
<211> 603
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature

```
<222> (1)...(603)
<223> n = A,T,C or G

<400> 1062
ctggtcatct tgtcatgtga agaccatctt cctacagagt ctaggctggc cgtcgttgaa      60
gtcctcacca gtactacacc acttttcctc accaaccccc atcctattct tgagttgcag     120
gatacacttg ctctctggaa gtgtgtcctt acccttctgc agagtgagga gcaagctgtt     180
agagatgcag ccacggaaac cgtgacaact gccatgtcac aagaaaatac ctgccagtca     240
acagagtttg ccttctgcca ggtggatgcc tccatcgctc tggccctggc cctggccgtc     300
ctgtgtgatc tgctccagca gtgggaccag ttggcccctg gactgcccat cctgctggga     360
tggctgttgg gagagagtga tgacctcgtg gcctgtgtgg agagcatgca tcaggtggaa     420
gaagactacc tgtttgaaaa agcagaagtc aacttttggg ccgagaccct gatctttgtg     480
aaatacctct gcaagcacct cttctgtctc ctctcaaaag tccggctggc gtnccccaag     540
ccctgagatg ctctgtcacc ttcaaaggat ggtgtcagag cagtgccacc tnctgtctca     600
gtt                                                                   603


<210> 1063
<211> 222
<212> DNA
<213> Homo sapien


<400> 1063
ccatcgtgga tcactgagat gcagtggcgg tccccgtagc tggcccgtgg catgccaccc      60
tggaagatgg tgaagggcaa cccctgccta gtggtcagcc ggaggattct ggtaatcgct     120
ttgcaaggaa agggaccgta aggcacgagg ctgcggaggg gctctggttg ctgggcttcg     180
ctggacacgg gccactggca gtagctgccg tcagagtgac ag                        222


<210> 1064
<211> 72
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(72)
<223> n = A,T,C or G


<400> 1064
gatgatcaat atnnactgga acacatgcat gcttttggaa tgtataatta cctgcactgt      60
gattcatggt at                                                          72


<210> 1065
<211> 251
<212> DNA
<213> Homo sapien


<400> 1065
gtggccgtga tggatagcga caccacaggc aagctgggct ttgaggaatt caagtacttg      60
tggaacaaca tcaaaaggtg gcaggccata tacaaacagt tcgacactga ccgatcaggg     120
accatttgca gtagtgaact cccaggtgcc tttgaggcag cagggttcca cctgaatgag     180
catctctata acatgatcat ccgacgctac tcagatgaaa gtgggaacat ggattttgac     240
aacttcatca g                                                          251


<210> 1066
```

<211> 289
<212> DNA
<213> Homo sapien

<400> 1066
ctggagatga tcctcaacaa gccagggctc aagtacaagc ctgtctgcaa ccaggtggaa   60
tgtcatcctt acttcaacca gagaaaactg ctggatttct gcaagtcaaa agacattgtt   120
ctggttgcct atagtgctct gggatcccac cgagaagaac catgggtgga cccgaactcc   180
ccagtgctct tggaggaccc agtcctttgt gccttggcaa aaaagcacaa gcgaacccca   240
gccctgattg ccctgcgcta ccagctacag cgtggggttg tggtcctgg   289

<210> 1067
<211> 301
<212> DNA
<213> Homo sapien

<400> 1067
ctgtagttga ctgaagtcgc taaacaggac ggatttaagt agaggtgata tgtccagtca   60
ccggcataga dacgtcctct gcgtcaccat ccacacacag ggcttctggt agacatcagg   120
caaagctctc catgttaata ttcatctgaa tatggataat tagggtggct agcaaaacta   180
tcactgttaa aatagtggag atttctgtct aggccatcta tggctttcat gtcctccgca   240
gtcaactgga actcaaaaac ctgcacgttc tgtctgatgc gctgctcatt gtagctcttg   300
g   301

<210> 1068
<211> 255
<212> DNA
<213> Homo sapien

<400> 1068
ccagcagttc ctctttgcct tatatttgtg gtacgcccgg ccagccttca agatgggttt   60
gtcaattcgg ccacctccag ccaccacacc aaccacagct ctgttggctg aggagataac   120
cttcttggag ccggagggca gcttcacacg ggtcttcttg gtctcagggt tgtgggagat   180
aacggtggca tagttccctg atgcccgggc cagcttgcca cggtctccag gcttctcctc   240
caggcagcac acgat   255

<210> 1069
<211> 77
<212> DNA
<213> Homo sapien

<400> 1069
ctggacaggc tccagcaccg gcccaaacac gcccagacct cggcaggcac cacctggttc   60
tcccacccag aaagttc   77

<210> 1070
<211> 163
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(163)
<223> n = A,T,C or G

```
<400> 1070
ctgctgggat gnctgccaag tttttcagcc ataaggtagc gaaatctagc agaatccaga      60
ttacatccac ttccaatcac gcggtgtttg ggtaatccac ctagtttnna ggtaacatac     120
gtaagaatgt ccactgngtt ggaaacnnca attatgatgc aat                       163


<210> 1071
<211> 246
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(246)
<223> n = A,T,C or G


<400> 1071
ctgaccggac cggncatgcc cgtccggaac gtctataaga aggagaaagc tcgagtcatc      60
actgaggaag agaagaattt caaagccttc gctagtctcc gtatggcccg tgccaacgcc     120
cggctcttcg gcatacgggc aaaaagagcc aaggaagccg cagaacagga tgttgaaaag     180
aaaaaataaa gccctcctgg ggacttggaa tcagtcggca gacaaaaaaa aaaaaaaaaa     240
aacaaa                                                                246


<210> 1072
<211> 224
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(224)
<223> n = A,T,C or G


<400> 1072
ctgccctgac agagcgctcc ttgatgggca tggactggaa aggatcccag gaatacaaga      60
aggcagaaaa aaaagtttgg aagatcttta aatctgacag tgaagtggct ggttacatcc     120
ggcaagcggg tgacttccat cangtaatta ttcgaggtgg aggacatatt ttaccctatg     180
accagcctct gagagctttt gacatgatta atcgattcat ttat                      224


<210> 1073
<211> 301
<212> DNA
<213> Homo sapien


<400> 1073
ctgtagttga ctgaagtcgc taaacaggac ggatttaagt agaggtgata tgtccagtca      60
ccggcataga gacgtcctct gcgtcaccat ccacacacag ggcttctggt agacatcagg     120
caaagctctc catgttaata ttcatctgaa tatggataat tagggtggct agcaaaacta     180
tcactgttaa aatagtggag atttctgtct aggccatcta tggctttcat gtcctctgca     240
gtcaactgga actcaaaaac ctgcacgttc tgtctgatgc gctgctcatt gtagctcttg     300
g                                                                     301


<210> 1074
<211> 132
```

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(132)
<223> n = A,T,C or G

<400> 1074
caagcttttt tttttttttt tttttttttt ttcgctcaaa nactttnttt tattantaca   60
tgggctggna ttgatggnaa gggacaaatg tanttggcaa ccatggttag catcggatgc   120
ccatcccaat gg   132

<210> 1075
<211> 301
<212> DNA
<213> Homo sapien

<400> 1075
ctgtagttga ctgaagtcgc taaacaggac ggatttaagt agaggtgata tgtccagtca   60
ccggcataga gacgtcctct gcgtcaccat ccacacacag ggcttctggt agacatcagg   120
caaagctctc catgttaata ttcatctgaa tatggataat tagggtggct agcaaaacta   180
tcactgttaa aatagtggag atttctgtct aggccatcta tggctttcat gtcctctgca   240
gtcaactgga actcaaaaac ctgcacgttc tgtctgatgc gctgctcatt gtagctcttg   300
g   301

<210> 1076
<211> 436
<212> DNA
<213> Homo sapien

<400> 1076
ctgctgggat gaatgccaag tttttcagcc ataaggtagc gaaatctagc agaatccaga   60
ttacatccac ttccaatcac gcggtgtttg ggtaatccac ctagtttcca ggtaacatac   120
gtaagaatgt ccactgggtt ggaaaccaca attatgatgc aatcaggact gtacttgacg   180
atctgaggaa taatgaattt gaagacatta acatttctct gcaccagatt gagccgactc   240
tccccttctt gctgacggac tcctgcagtt actactacaa tcttagaatt ggcggtcaca   300
gaataatctt tatctgccac aattttaggt gtctgaagaa ataagctccc atgctgcaga   360
tccatcattt ctcctttaag cttatcttcc aaaacatcca caagagcaag ttcatcagcc   420
agagactttc ccagaa   436

<210> 1077
<211> 256
<212> DNA
<213> Homo sapien

<400> 1077
ctgaagatta ataggaaaca gtgaaaaagc aacgtcctgt gatcagtaac tttaaagaca   60
agcttggttc tctctttctg gcactactga cattcccacc attctagctt ccgaattctg   120
gaaaaagaga agatgattaa caaaaataga gaatgtagaa acttctggtt ttgtgcctac   180
aggattggca ccagaccctc agtgctcact tgctccatct acaaggcagc acccctccca   240
gaggcagcca gggagg   256

<210> 1078

<211> 202
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(202)
<223> n = A,T,C or G

<400> 1078
ctgtgctncn caaccagatc catgtnaagt gccccgccca gagaagggag ccaggggag   60
ctgactncag ncaacancca gtgnccggat gancaccaac atgtgagggg tgaaccttgg   120
cctccangac atntgcaccc cctnccccacc tccacggacc tcggacctcc aggcggctca   180
gtgctgcctg cggcccagct aa   202

<210> 1079
<211> 170
<212> DNA
<213> Homo sapien

<400> 1079
gcgcttctcg ggcaccgtca ggcttaagtc cactccccgc cctaagttct ctgtgtgtgt   60
cctgggggac cagcagcact gtgacgaggc taaggccgtg gatatccccc acatggacat   120
cgaggcgctg aaaaaactca acaagaataa aaaactggtc aagaagctgg   170

<210> 1080
<211> 494
<212> DNA
<213> Homo sapien

<400> 1080
cctgcggcaa agagatgcgc ttattgagaa acatggctta gttataatcc ccgatggcac   60
tcccaatggt gatgtcagtc atgaaccagt ggctggagcc atcactgttg tgtctcagga   120
agctgctcag gtcttggagt cagcaggaga agggccatta gatgtaaggc tacgaaaact   180
tgctggagag aaggaagaac tactgtcaca gattagaaaa ctgaagcttc agttagagga   240
ggaacgacag aaatgctcca ggaatgatgg cacagtgggt gacctggcag gactgcagaa   300
tggctcagac ttgcagttca tcgaaatgca gagagatgcc aatagacaaa ttagcgaata   360
caaatttaag ctttcaaaag cagaacagga tataactacc ttggagcaaa gtattagccg   420
gcttgaggga caggttctga gatataaaac tgctgctgag aatgctgagg aaagttgaag   480
atgaattgaa agca   494

<210> 1081
<211> 123
<212> DNA
<213> Homo sapien

<400> 1081
ctgctgctat taagttgcaa gctctacagc tagctacatg actgatggat cagtttgaga   60
tttgttccct tgtcaaaagt ttaactctga tagaaggttg gcctcacatt ctgatgtttg   120
gac   123

<210> 1082
<211> 297
<212> DNA

<213> Homo sapien

<400> 1082
```
cctgcacttg aacatggctt tggtttttaag caacttctct accctgaccc tcctcctggg    60
acagcgtttc gggaggtttc ttggcctcac tgagagggat gtggagctgc tgtaccccgt   120
caaggagaag gtattctaca gcctgatgag ggagagcggc tacatgcaca tccagtgcac   180
caagcctgac accgtaggct ctgctctgaa tgactctcct gtgggtctgg ctgcctatat   240
tctagagaag ttttccacct ggaccaatac ggaattccga tacctggagg atggagg      297
```

<210> 1083
<211> 452
<212> DNA
<213> Homo sapien

<400> 1083
```
ctgggccacg aggacaccac cagcttggat cggcctcgcc gtgtggaata ctttgtagat    60
aagcaactcc aagtaaaggc tgtcacctgt gggccgtgga acacctacgt gtatgctgtg   120
gagaaaggga agagctgaca tgtgtacgta tatgtatatg caacacctgt gagacccccca  180
ttcaggtcaa ggaaaaccat tgcctgcacc ccaagggccc catatttgcc cctccccatc   240
acagtcctgc ccttcaccct caagcacggt cctaaacttg tctgcacttt agaaacacct   300
ggagagcatt gaaaactctg ctgcctaagg tcagcatcaa tcaaaacaat gaaatcaatg   360
aaacaatgaa accagagctt ctaggtgtgt ggcctggata gtggtagatt caaagctcca   420
cccacctcat cccaggtaca tttgatgtgc ag                                 452
```

<210> 1084
<211> 301
<212> DNA
<213> Homo sapien

<400> 1084
```
ctgtagttga ctgaagtcgc taaacaggac ggatttaagt agaggtgata tgtccagtca    60
ccggcataga gacgtcctct gcgtcaccat ccacacacag ggcttctggt agacatcggg   120
caaagctctc catgttaata ttcatctgaa tatggataat tagggtggct agcaaaacta   180
tcactgttaa aatagtggag atttctgtct aggccatcta tggctttcat gtcctctgca   240
gtcaactgga actcaaaaac ctgcacgttc tgtctgatgc gctgctcatt gtagctcttg   300
g                                                                   301
```

<210> 1085
<211> 369
<212> DNA
<213> Homo sapien

<400> 1085
```
ctgtttccca tgggccacca ggcggctcag gacagcaaac gtctcatccc ctctcaggat    60
gtacttctcc atgtcctgct cgatccactg gtacatgagg cccttcacat gcacgtctcg   120
gatggcgtcc gtcacgtcct tgtagagatg tgcttggtca aactccaggc tgtggcccag   180
aaagtagtcc accacacagg acagcagagc catctccggt agcgagaaga tgtccatgaa   240
ctgcttaatg gagggaccct tgccatagaa gccactcatc tggtatagtg ggatgtgctg   300
ggtaccccca tacagctcaa tcacctcctc gtctggcaca ggctggaggc ccctgtaggc   360
tgtccccag                                                           369
```

<210> 1086
<211> 316
<212> DNA

<213> Homo sapien

<400> 1086
```
cctcagaggt ttctccacag tcctcttctg ggcaaattct tgtttcttca catgccggac    60
tagcttaaga ccaatgcagt agcttatttc caagccttgc aaagtatata atatctaaga   120
ggaaaggttt tgtcatccca gcgttgtcca ctttgtgggg ctttgtaggt agacggagcc   180
acactacagg cagggtatga gcagagggat gtatggagtg tgggtgactc tgagcctcac   240
tgccgctgca aggtggggaa actgtaagtg aacccctgtg ggtgcggggg agggtatccg   300
                                                                   316
gtgcgcaggg aggtgg
```

<210> 1087
<211> 329
<212> DNA
<213> Homo sapien

<400> 1087
```
cctgcagggg atgggacctt ccagaagtgg gcgtctgtgg tggtgccttc tggacaggag    60
cagagataca cctgccatgt gcagcatgag ggtctgccca agcccctcac cctgagatgg   120
gagccgtctt cccagcccac catccccatc gtgggcatca ttgctggcct ggttctcttt   180
ggagctgtga tcgctggagc tgtggtcgct gctgtgatgt ggaggaggaa gagctcagat   240
agaaaaggag ggagctactc tcaggctgca agcagtgaca gtgcccaggg ctctgatatg   300
                                                                   329
tctcccacag cttgtaaagt gtgagacag
```

<210> 1088
<211> 342
<212> DNA
<213> Homo sapien

<400> 1088
```
ccactcactg ctgggaccca ggcacctccc ttctccatcc tctctggatt gtcagtaatg    60
tcctggaaca gaagcctgtg ggatggcctt gggcacggag aagccctggg gtcagtgtcg   120
tgcacggatg gcggcagtgt tgaacccagg aggctgaacc cggcccacca cggaagatga   180
gtgcatggca accgcctgcc ttcacgtcgc tccacttggt aaccccaagg tctgggctgt   240
tctaggtatt gcttcacgtg ccccagcaag cccttaacaa gagggcctgg ttccctgaag   300
                                                                   342
aaccaatccc aggaaggggc cttgatccct ccgccttgct ga
```

<210> 1089
<211> 51
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(51)
<223> n = A,T,C or G

<400> 1089
```
ccttgtgttc agtctccncg ctcttcttgc cactgttgag ggtggagatg t             51
```

<210> 1090
<211> 515
<212> DNA
<213> Homo sapien

<400> 1090

```
cctggggagg ccctagggga gcaccgtgat ggagaggaca gagcaggggc tccagcacct      60
tctttctgga ctggcgttca cctccctgct cagtgcttgg gctccacggg caggggtcag     120
agcactccct aatttatgtg ctatataaat acgtcagatg tacatagaga tctatttttt     180
ctaaaacatt cccctcccca ctcctctccc acagagtgct ggactgttcc aggccctcca     240
gtgggctgat gctgggaccc ttaggatggg gctcccagct cctttctcct gtgaatggag     300
gcagagacct ccaataaagt gccttctggg ctttttctaa cctttgtctt agctacctgt     360
gtactgaaat ttgggccttt ggatcgaata tggtcaagag gttggagggg aggaaaatga     420
aggtctacca ggctgagggt gagggcaaag gctgacgaag agggaaagtt acagatttcc     480
tgtagcaggt gtgggcttac agacacatgg actgg                                 515
```

<210> 1091
<211> 277
<212> DNA
<213> Homo sapien

<400> 1091

```
gcgtcccgga gcccacggtg gtcatggctg ccagagcgct ctgcatgctg gggctggtcc      60
tggccttgct gtcctccagc tctgctgagg agtacgtggg cctgtctgca aaccagtgtg     120
ccgtgccagc caaggacagg gtggactgcg gctacccca tgtcacccc aaggagtgca       180
acaaccgggg ctgctgcttt gactccagga tccctggagt gccttggtgt ttcaagcccc     240
tgcaggaagc agaatgcacc ttctgaggca cctccag                              277
```

<210> 1092
<211> 368
<212> DNA
<213> Homo sapien

<400> 1092

```
cctgggcccg ctgacttcag ggtgaggcca cagctactgc agcgctttt atttatttat       60
ttatttactg agatggagtc ttgctctgtc acccaggctg gagtgcagtg gtgcaatctc     120
ggctcactgc aacctctgcc tcctgggctg cagtgattct cctgcgttca agtaattctc     180
ctgcctcggc cttctgagta gttgggatta caggcatatg ccaccacact tggctaattt     240
tttgtatttt tagtagaaat ggggtttcac catgttggcg aggctggtct cgaactcctg     300
acctcaagga tcctcctgcc tcggcctcct aaggtgctgg gattgcaggt gtgagccacc     360
acgtctgg                                                               368
```

<210> 1093
<211> 459
<212> DNA
<213> Homo sapien

<400> 1093

```
ctgtgcatgg agccatttgg atggcggcgg gcggggggg attctctgta tcaggagtga       60
ctttgttgcc ccacacagcc tcctgctgca ggtgctttgg aaagagatgc tgccttggag     120
ctggtgaatc tgtggaccac attcaagggt gtggcacagg catcttccca tccttttcac     180
tccgaatcgc tggcgacaca ttctcctttc cagctaggaa agggttcctc gcggctggtt     240
tagattgtgg ttgtttgttt tgcttctact aagactgttt tgtttcaaaa aggaaacaag     300
ttttgtgttt gctgtctacg ctggagtcct gaactgtggg tagaaaacac gacctggctt     360
tgtagaaagg acacagggct gtttttatgaa ctaagcggtg aggctcaggt ggcggctctc     420
acagagcccc tgatgctgtt gttctttgag ggcttaagg                            459
```

<210> 1094
<211> 610

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(610)
<223> n = A,T,C or G

<400> 1094
```
ccatgcaaaa ggaggtggtg cactcagtgc agtcgctgcc acaaaaagtc cgattatttt      60
cattggtaca ggggaacata tagatgactt tgaacctttc aaaacacagc cttttattag     120
caaacttctt ggtatgggcg acattgaagg actgatagat aaagtcaacg agttgaagtt     180
ggatgacaat gaagcactta tagagaagtt gaaacatggt cagtttacgt tgcgagacat     240
gtatgagcaa tttcaaaata tcatgaaaat gggcccctтc agtcagatct ggggatgat     300
ccctggtttt gggacagatt ttatgagcaa aggaaatgaa caggagtcaa tggcaaggct     360
aaagaaatta atgacaataa tggatagtat gaatgatcaa gaactagaca gtacggatgg     420
tgccaaagtt tttagtaaac aaccaggaag aatccaaaga gtagcaagag gatcgggtgt     480
atcaacaaga gatgttcgag aacttttgac acaatatacc aagtttgcac agatggtaaa     540
aaagatggga ggtatcaaag gactttтcaa aggtgggcga catgtctaan aatgtgagcc     600
agtcacagat                                                            610
```

<210> 1095
<211> 232
<212> DNA
<213> Homo sapien

<400> 1095
```
ccttatttct cttgtccttt cgtacaggga ggaatttgaa gtagatagaa accgacctgg      60
attactccgg tctgaactca gatcacgtag gactttaatc gttgaacaaa cgaacctta     120
atagcggctg caccatcggg atgtcctgat ccaacatcga ggtcgtaaac cctattgttg     180
atatggactc tagaatagga ttgcgctgtt atccctaggg taacttgttc cg              232
```

<210> 1096
<211> 377
<212> DNA
<213> Homo sapien

<400> 1096
```
ccacgctcat ggaaaccacc caaggacagc cagagtccac attccctggc aagctgggtg      60
tattcttcca aaagtttccc acccagtggt tcagacaggt gtagcgtctc tgcagggtcc     120
cgtgcaatga agtcaaatgc ctcaggcagg aaagccaggc aggcacccag tctggcagcc     180
tctcgaacca gcccagcaca tgttttaaag ttctgttgct tgtctggcgt cgatgttacc     240
tggcacacag ccaccagggg cagttcgcag gaggaagagg agatagccat ggctctgggc     300
ctgggctgag cacaaagtac tgagagttga ggtatccgga gtccaggaca cagaagggac     360
aggaatctgt gaggagg                                                    377
```

<210> 1097
<211> 311
<212> DNA
<213> Homo sapien

<400> 1097
```
ccacgccatg gggctggagc actcccaaga ccctggggcc ctgatggcac ccatttacac      60
ctacaccaag aacttccgtc tgtcccagga tgacatcaag ggcattcagg agctctatgg     120
```

```
ggcctctcct gacattgacc ttggcaccgg ccccaccccc acactgggcc ctgtcactcc    180
tgagatctgc aaacaggaca ttgtatttga tggcatcgct cagatccgtg gtgagatctt    240
cttcttcaag gaccggttca tttggcggac tgtgacgcca cgtgacaagc ccatggggcc    300
cctgctggtg g                                                         311
```

```
<210> 1098
<211> 404
<212> DNA
<213> Homo sapien
```

```
<400> 1098
ccacccacgc ttaggttccc atcacactga tgactccggg tttggcgagc acaggagcgc     60
aaaccttttc acattctttc tgtgatccaa atttgttttc gtttccacca caacctccat    120
accagaatct tgcacagctt ttggtgtttg gatcatagta ccattttaat atgaaatccc    180
tgcaagttcc ttcgtctttc ggcaacttgc atatatctgt ttcagtgaga gccaatggtt    240
ctgtgctcac cattagattg atggttgaac tagaagctga ccttgctggc tgtggaggtg    300
ggggctgaga tttctttgta ctgaaacttc cgtggtaggt ggctctgacc tgagacctca    360
ggtagcagac cacagccaca tggtatgtct gcccagcgag cagg                     404
```

```
<210> 1099
<211> 442
<212> DNA
<213> Homo sapien
```

```
<400> 1099
ccatgggatg gctcttctga ccattggggg ccaggccagg ccaggccagg cttagggtag     60
caaggaccag gccaaagggg cagggcctcc tttggagggg ttgaggggta catcctcggc    120
tggtgtttgc atccaggggt ccagcaggat ctcttccagt gagggtcggg aagaaggttt    180
ggggggccagg caccggcgga ttagggcaca gcagtctggg gagacatggg ctgggaagtg    240
gagctcagct tccagaatct cctggtccct ctcaaaggga atgtccccac acaccatgtc    300
atagaggagg atgcccagtg accagacagt ggccgggagt gcatggtact ggtgtcgaga    360
gatccactct gggggggctgt acacccttgt cccatcaaag tcagtgtagg gttcatcatg    420
aagcagggca ccaggaacca aa                                             442
```

```
<210> 1100
<211> 191
<212> DNA
<213> Homo sapien
```

```
<400> 1100
ccacgaaaat caatgagaag ccacaggtga tcgcggacta tgagagcgga cgggccatac     60
ccaataacca ggtgcttggc aaaatcgagc gggccattgg cctcaagctc cggggaaagg    120
acattggaaa gcccatcgag aaggggccta gggcgaaatg aacacaaagc ctcgaaatca    180
gtgcgctcca g                                                         191
```

```
<210> 1101
<211> 178
<212> DNA
<213> Homo sapien
```

```
<400> 1101
cgggtacttt ggtggacatg aaggaactgg gcatatggga gccattggct gtgaagctgc     60
agacttataa gacagcagtg gagacggcag ttctgctact gcgaattgat gacatcgttt    120
caggccacaa aaagaaaggc gatgaccaga gccggcaagg cggggctcct gatgctgg      178
```

<210> 1102
<211> 209
<212> DNA
<213> Homo sapien

<400> 1102
agccaggcta gtgacagaaa tggattcgaa atatcagtgt gtgaagctga atgatggtca   60
cttcatgcct gtcctgggat ttggcaccta tgcgcctgca gaggttccta aaagtaaagc   120
tttagaggcc accaaattgg caattgaagc tggcttccgc catattgatt ctgctcattt   180
atacaataat gaggagcagg ttggactgg   209

<210> 1103
<211> 396
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(396)
<223> n = A,T,C or G

<400> 1103
ctatagggct cgagggccgc ccgggcaggt ggtgcctcta atactggtga tgctagaggt   60
gatgttttg gtaaacaggc ggggtaagat ttgccgagtt cctttactt tttttaacct   120
ttccttatga gcatgcctgt gttgggttga cagtgggggt aataatgact tgttggttga   180
ttgtagatat tgggctgtta attgtcagtt cagcgtttta atctgacgca ggcttatgca   240
gaggagaatg ttttcatgtt acttatacta acattagttc ttctataggg tgatagattg   300
gtccaattgg gtgtgaggag ttcagttata tgtttgggat tttttaggta ntgggtgttg   360
agcttgaacg ctttcttaat tggtggctgc tttagg   396

<210> 1104
<211> 342
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(342)
<223> n = A,T,C or G

<400> 1104
ctgctgatac ccaggcagta gctgatgctg tcacctacca gctcggtttc cacagcattg   60
aactgaatga gcctccactg gtccacacag cagccagcct ctttaaggag atgtgttacc   120
gataccggga agacctgatg gcgggaatca tcatcgcagg ctgggaccct caagaaggag   180
ggcaggtgta ctcagtgcct atggggggta tgatggtaag gcantncttt gccattggag   240
gctccgggag ctcctacatc tatggctatg ttgatgctac ctaccgggaa ggcatgacca   300
angaagagtg tctgcaattc actgccaatg ctctcgcttt gg   342

<210> 1105
<211> 551
<212> DNA
<213> Homo sapien

```
<400> 1105
ctgggccac  tgtcggcatc  atgattggag  tgctggttgg  ggttgctctg  atatagcagc     60
cctggtgtag  tttcttcatt  tcaggaagac  tgacagttgt  tttgcttctt  ccttaaagca    120
tttgcaacag  ctacagtcta  aaattgcttc  tttaccaagg  atatttacgg  aaaagactct    180
gaccagagat  cgagaccatc  ctagccaaca  tcgtgaaacc  ccatctctac  taaaaataca    240
gaaattagct  ggacatggtg  gcatgtgcct  gtaatcccag  ctactcagga  ggctgaggca    300
ggagaactgc  ttgaacaggg  acccgggagg  cggagattgg  agtgagccga  gatcgcgcca    360
ctgcactcca  gtctgggcta  cacagtgaga  ctctgtctca  agaaaaataa  acagaagaat    420
tgggggttgg  gggtgggaaa  cagtgtttcc  aggcagagag  aacagcacgt  acaaaggaga    480
ctgttgggag  ggttaaatga  aataattcat  gtaaggtact  tagtaccaca  catgaatttc    540
acaagcagca  g                                                             551


<210> 1106
<211> 280
<212> DNA
<213> Homo sapien


<400> 1106
ctgctcttca  cacagggttc  tggggaaaac  aaggaagaga  tcatcaatta  tgaatttgac     60
accaaggacc  tggtgtgcct  gggcctgagc  agcatcgttg  gcgtctggta  cctgctgagg    120
aagcactgga  ttgccaacaa  cctttttggc  ctggccttct  cccttaatgg  agtagggctc    180
ctgcacctca  acaatgtcag  cactggctgc  atcctgctgg  gcggactctt  catctacgat    240
gtcttctggg  tatttggcac  caatgtgatg  gtgacagtgg                            280


<210> 1107
<211> 570
<212> DNA
<213> Homo sapien


<400> 1107
ctgattagtg  tctaaggaat  ggtccaatac  tgttgccctt  ttccttgact  attacactgc     60
ctggaggata  gcagagaagc  ctgtctgtac  ttcattcaaa  aagccaaaat  agagagtata    120
cagtcctaga  gaattcctct  atttgttcag  atctcataga  tgaccccag  gtattgtctt     180
ttgacatcca  gcagtccaag  gtattgagac  atattactgg  aagtaagaaa  tattactata    240
attgagaact  acagctttta  agattgtact  tttatcttaa  aagggtggta  gttttcccta    300
aaatacttat  tatgtaaggg  tcattagaca  aatgtcttga  agtagacatg  gaatttatga    360
atggttcttt  atcatttctc  ttcccccttt  ttggcatcct  ggcttgcctc  cagtttttagg    420
tcctttagtt  tgcttctgta  agcaacggga  acacctgctg  aggggctct  ttccctcatg     480
tatacttcaa  gtaagatcaa  gaatcttttg  tgaaattata  gaaatttact  atgtaaatgc    540
ttgatggaat  tttttcctgc  tagtgtagct                                        570


<210> 1108
<211> 386
<212> DNA
<213> Homo sapien


<400> 1108
ctgttcctgc  ggtgacactg  tataaacacg  atgaccctgc  cttgacttta  gttgctggtc     60
ttacatcaaa  taagcccaca  gacaaactcc  gtgccctgcc  tctgtggtta  tctttacaat    120
acttgggact  tgatgggttt  gtggagagga  tcaagcatgc  ctgtcaactg  agtcaacggt    180
tgcaggaaag  tttgaagaaa  gtgaattaca  tcaaaatctt  ggtggaagat  gagctcagct    240
ccccagtggt  ggtgttcaga  ttttttccagg  aattaccagg  ctcagatccg  gtgtttaaag    300
ccgtcccagt  gcccaacatg  acaccttcag  gagtcggccg  ggagaggcac  tcgtgtgacg    360
cgctgaatcg  ctggctggga  gaacag                                            386
```

```
<210> 1109
<211> 409
<212> DNA
<213> Homo sapien

<400> 1109
ctctggtctg taaccagtct cttcaaggca ttatctcctg gggccaggat ccgtgtgcga      60
tcacccgaaa gcctggtgtc tacacgaaag tctgcaaata tgtggactgg atccaggaga     120
cgatgaagaa caattagact ggacccaccc accacagccc atcaccctcc atttccactt     180
ggtgtttggt tcctgttcac tctgttaata agaaacccta agccaagacc ctctacgaac     240
attctttggg cctcctggac tacaggagat gctgtcactt aataatcaac ctggggttcg     300
aaatcagtga gacctggatt caaattctgc cttgaaatat tgtgactctg ggaatgacaa     360
cacctggttt gttctctgtt gtatccccag ccccaaagac agctcctgg              409

<210> 1110
<211> 215
<212> DNA
<213> Homo sapien

<400> 1110
ccattttgga gtgtgtccat tgggtagcaa tgtggaaacc accagggcct ttgtggagaa      60
aatggagggg gttgagggag tcccaggagg ggcttatttg agggcctttg ccacttgctc     120
ataggcgagc tcgatctcct catcatctgg acaggtggaa gcgaattctt cccgggcgta     180
ggcattgctc aagtaccgat gcactccccg gaagg                              215

<210> 1111
<211> 308
<212> DNA
<213> Homo sapien

<400> 1111
cctgggcccg ctgacttcag ggtgaggcca cagctactgc agcgcttttt atttatttat      60
ttatttactg agatggagtc ttgctctgtc acccaggctg gagtgcagtg gtgcaatctc     120
ggctcactgc aacctctgcc tcctgggctg cagtgattct cctgcgttca agtaattctc     180
ctgcctcggc cttctgagta gttgggatta caggcatatg ccaccacact tggctaattt     240
tttgtatttt tagtagaaat ggggtttcac catgttggcg aggctggtct cgaactcctg     300
acctcaag                                                            308

<210> 1112
<211> 177
<212> DNA
<213> Homo sapien

<400> 1112
ccactggctc cctgggccag ggcctcgggg ccgcttgtgg gatggcctac accggcaaat      60
acttcgacaa ggccagctac cgagtctatt gcttgctggg agacggggag ctgtcagagg     120
gctctgtatg ggaggccatg gccttcgcca gcatctataa gctggacaac cttgtgg        177

<210> 1113
<211> 646
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(646)
<223> n = A,T,C or G

<400> 1113
ccccaccatg gacacacttt gctacacact cctgctgctg accacccctt cctgggtctt    60
gtcccaggtc accttgaagg agtctggtcc tgtactggtg aaacccacag agaccctcac   120
gctgacctgc accgtctctg ggttttcact cagtaatatt agagtgggtg tgagttggat   180
ccgtcagccc ccagggaagg ccctggagtg gtttgcatac attttttcga ctgacgaaaa   240
atccttcaat tcatctctga agaacaggct caccatctcc aaggacacct ctaaaagcca   300
ggtggtcctt agcatgacca acatggaccc tgtggacaca gccacatatt actgtgcacg   360
gctctctatt tacttcgggg agttagaaac ctaccaatac atggacgtct ggggcaaagg   420
gaccaccgcc accgtctcct cagcatcccc gaccagcccc aaggtcttcc cgctgagcct   480
ctgcagcacc cagccagatg ggaacgtggt catcgcctgc ctggtccang gcttcttccc   540
ccaggagcca ctcagtgtga cctggagcga aagcggacan ggcgtgaccg ccagaaactt   600
ccccacccag ccaggatgcc tncggggacc tgtacaccac gagcag                 646


<210> 1114
<211> 420
<212> DNA
<213> Homo sapien

<400> 1114
tgttgtttta ctcacctaac ccttagaaaa tgaatgttag aaggtgcctg ccgaggcggg    60
acagagtgtt cgctcgcgct ggagaaggct ctgctcagcc ctgagagtcc cttcctgccc   120
caccgatact ggcactttaa aaaggaagct gaccgcacag tgtccagacg aattggcccc   180
cagaagatgg ggagttctgt cctgcccttc tgtgtctgcg tgacctcacc cagcctagga   240
gggaggtgca ttcagggtag atttgcctct cattcaaagt tctggggctt tgggtggaaa   300
acagccagct ttggcgctgt tggggagact cctccagacc aggaacccca gaaggagaca   360
gagcctgcca catcctccca cgccaggccc tgggccaggg tgattggact gagaatttgg   420


<210> 1115
<211> 416
<212> DNA
<213> Homo sapien

<400> 1115
ctgaaagttt ctaaaataga aacctggtgc atatggcccc aaaacaccac atgctttgat    60
tacactcagg gagcatgagt tgcctatttg ggtgagaaaa tcccatgtta cagtgcgatc   120
gctgggcacg ttttggagta attccagcca ctgctatgta agtgttttta attcaggggt   180
gtcttctacg ttttcatctt ctgaatatct tgtgacggtg caggtttgag caaaactggc   240
atgaaatgag agctgtttta gatgaagatt gcaagatgga tggcttggcc cacagtggca   300
gtgggttggg ggtggaatgt ggacaattag gaaaaaggca tgtcattcta tctggctcct   360
ggagaggcag atagtcctgg gggctttggt gtcacagttc ccaaaagcaa ggttgg       416


<210> 1116
<211> 382
<212> DNA
<213> Homo sapien

<400> 1116
ccttatttct cttgtccttt cgtacaggga ggaatttgaa gtagatagaa accgacctgg    60
attactccgg tctgaactca gatcacgtag gactttaatc gttgaacaaa cgaacctta   120
```

```
atagcggctg caccatcggg atgtcctgat ccaacatcga ggtcgtaaac cctattgttg    180
atatggactc tagaatagga ttgcgctgtt atccctaggg taacttgttc cgttggtcaa    240
gttattggat caattgagta tagtagttcg ctttgactgg tgaagtctta gcatgtactg    300
ctcggaggtt gggttctgct ccgaggtcgc cccaaccgaa aatttttaat gcaggcttgg    360
tagtttagga cctgtgggtt tg                                             382
```

<210> 1117
<211> 370
<212> DNA
<213> Homo sapien

<400> 1117
```
ctgcgtgtct gaaaaccaaa gatttaaaac atagtaatta ttgaacctca gaagaaaaac     60
tcagattgaa agagcttaga ataagaccct ttttgagttg agaaaggtga gtacttagat    120
ttttcatttg ctttgtttgg gattacttac atcagtattt tatgttgatc agaaagaaag    180
gattcaatta gctattgttc ggttaataaa aatgtcagcc actgtaggag taagttggat    240
gtccagcctt tttagattgc ttaacttgga aacactggac tgggagcggt ggctcatgcc    300
tgtgatccca gcactctggg aggccaaggc aggcagatca ctggaggtca ggagtttgag    360
accaacctgg                                                           370
```

<210> 1118
<211> 494
<212> DNA
<213> Homo sapien

<400> 1118
```
ctgtctctta cttttaacca gtgaaattga cctgcccgtg aagaggcggg cataacacag     60
caagacgaga agaccctatg gagctttaat ttattaatgc aaacagtacc tgacaaaccc    120
acaggtccta aactaccaga cctgcattaa aaatttcggt tggggcgacc tcggagcaga    180
acccaacctc cgagcagtac atgctaagac ttcaccagtc aaagcgaact actatactca    240
attgatccaa taacttgacc aacggaacaa gttaccctag ggataacagc gcaatcctat    300
tctagagtcc atatcaacaa tagggtttac gacctcgatg ttggatcagg acatcccgat    360
ggtgcagccg ctattaaagg ttcgtttgtt caacgattaa agtcctacgt gatctgagtt    420
cagaccggag taatccaggt cggtttctat ctacttcaaa ttcctccctg tacgaaagga    480
caagagaaat aagg                                                      494
```

<210> 1119
<211> 407
<212> DNA
<213> Homo sapien

<400> 1119
```
ccttatgact acaacggccc acgagaaaaa tatggaatcg ttgattacat gatcgagcag     60
tccgggcctc cctccaagga gattctgacc ctgaagcagg tccaggagtt cctgaaggat    120
ggagacgatg tcatcatcat cggggtcttt aagggggaga gtgacccagc ctaccagcaa    180
taccaggatg ccgctaacaa cctgagagaa gattacaaat tcaccacac tttcagcaca    240
gaaatagcaa agttcttgaa agtctcccag gggcagtcgg ttgtaatgca gcctgagaaa    300
ttccagtcca agtatgagcc ccggagccac atgatggacg tccagggctc cacccaggac    360
tcggccatca aggacttcgt gctgaagtac gccctgcccc tggttgg                  407
```

<210> 1120
<211> 548
<212> DNA
<213> Homo sapien

```
<220>
<221> misc_feature
<222> (1)...(548)
<223> n = A,T,C or G

<400> 1120
ccccagagga cccgttggac ccagtggacc tcctggcaaa gatggaacca gtggacatcc        60
aggtcccatt ggaccaccag ggcctcgagg taacagaggt gaaagaggat ctgagggctc       120
cccaggccac ccagggcaac caggccctcc tggacctcct ggtgccctg gtccttgctg        180
tggtggtgtt ggagccgctg ccattgctgg gattggaggt gaaaaagctg gcggtttgc        240
cccgtattat ggagatgaac caatggattt caaaatcaac accgatgaga ttatggcttc       300
actcaagtct gttaatggac aaatagaaag cctcattagt cctgatggtt ctcgtaaaaa       360
cccagctaga aactgcagag acctgaaatt ctgccatcct gaactcaaga gtggagaata       420
ctgggttgac cctaaccaag gatgcaaatt ggatgctatc aaggtattct gtaatatgga       480
aactgggggaa acatgcataa gtgccaatcc ttngaatgtt ccacggaaac actggtggac       540
agattcta                                                                548


<210> 1121
<211> 278
<212> DNA
<213> Homo sapien

<400> 1121
cggccgaggt ccgccatggc gtgtgctcgc ccactgatat cggtgtactc cgaaaagggg        60
gagtcatctg gcaaaaatgt cactttgcct gctgtattca aggctcctat tcgaccagat       120
attgtgaact ttgtttacac caacttgcgc aaaaacaaca gacagcccta tgctgtcagt       180
gaattagcag gtcatcagac tagtgctgag tcttggggta ctggcagagc tgtggctcga       240
attcccagag ttcgaggtgg tgggactcac cgctctgg                               278


<210> 1122
<211> 591
<212> DNA
<213> Homo sapien

<400> 1122
ctgcagcggc agaggcagca tccagcggcg gcgccagcag ttccagtccg ttgctttact        60
ttttgcttca ccgacatagt cattatgccg aagagaaagt ctccagagaa tacagagggc       120
aaagatggat ccaaagtaac taaacaggag cccacaagac ggtctgccag attgtcagcg       180
aaacctgctc caccaaaacc tgaacccaaa ccaagaaaaa catctgctaa gaaagaacct       240
ggagcaaaga ttagcagagg tgctaaaggg aagaaggagg aaaagcagga agctggaaag       300
gaaggcacag aaaactgaat ctgtagataa cgaggagaa tgaattgtca tgaaaaattg        360
gggttgattt tatgtatctc ttgggacaac ttttaaaagc tattttacc aagtattttg        420
taaatgctaa ttttttagga ctctactagt tggcatacga aaatatataa ggatggacat       480
tttatcgtct catagtcatg cttttggaa atttacatca tcctcaagta aaataaatat        540
cagttaaata ttggaagctg tgtgtaagat tgattcagca ttccatgcac t               591


<210> 1123
<211> 454
<212> DNA
<213> Homo sapien

<400> 1123
ccaattgaaa caaacagttc tgagaccgtt cttccactac tgattaagag tggggtggca        60
```

```
ggtattaggg ataatattca tttagccttc tgagctttct gggcagactt ggtgaccttg     120
ccagctccag cagccttctt gtccactgct ttgatgacac ccaccgcaac tgtctgtctc     180
atatcacgaa cagcaaagcg acccaaaggt ggatagtctg agaagctctc aacacacatg     240
ggcttgccag gaaccatatc aacaatggca gcatcaccag acttcaagaa tttagggcca     300
tcttccagct ttttaccaga acggcgatca atcttttcct tcagctcagc aaacttgcat     360
gcaatgtgag ccgtgtggca atccaataca ggggcatagc cggcgcttat ttggcctgga     420
tggttcagga taatcacctg agcagtgaag ccag                                 454
```

```
<210> 1124
<211> 219
<212> DNA
<213> Homo sapien
```

```
<400> 1124
cctgctccag agcacggctg accatttctg ctccgggatc tcagctcccg ttccccaagc      60
acactcctag ctgctccagt ctcagcctgg gcagcttccc cctgcctttt gcacgtttgc     120
atccccagca tttcctgagt tataaggcca caggagtgga tagctgtttt cacctaaagg     180
aaaagcccac ccgaatcttg tagaaatatt caaactaat                            219
```

```
<210> 1125
<211> 246
<212> DNA
<213> Homo sapien
```

```
<400> 1125
ccagagctgg gcccaagctg cgctggaatc gcagcaggag aggggagtgg gctggttctt      60
cccaccactt cccaggctct gacagccgag actcatttcc aaggcacagc agctttctaa     120
agggactgag tttggactgg gttttggacc tccaggggct ggagcttcat cacctgggca     180
gtgtcttttc tcagagagca ggtttcttta tagtttggaa ataaatggtt cacggttcaa     240
aagaaa                                                                246
```

```
<210> 1126
<211> 227
<212> DNA
<213> Homo sapien
```

```
<400> 1126
ccattgttcc cgtgcatcga agcttgcagg cagcttcagg tcctcggtaa acataactct      60
ctggggtggc ttgggcccac ccaggaaggt accacatagc ctcttcaagt agctcatgtc     120
cacgttgtag aagttgtggc cggcctgcca cgtggtattc cgtttgttga catagttgac     180
cagctcatcc gacaggggat ggaaagaggg cctgctccgg gcattgg                   227
```

```
<210> 1127
<211> 377
<212> DNA
<213> Homo sapien
```

```
<400> 1127
cctgccgtcg atgccaggga ggccgacagg accttctttt ccagcggggc cgatatttcc      60
aggggaacca ggaagacctc tgggtcccat gagaccaggc tccccagggc gaccagcatc     120
tccattaggt cctcggactc cagcagggcc acttgcacca cgactaccag gagggcccat     180
gacgccagct ctgccatcag ctccaggaag accacgagaa ccaggactac ctctcagccc     240
aggaggtcct ggagggccgg cagatccagc ttccccatta gggcctctct ttccttcttc     300
accactggga ccaggaggac cttggggccc agcagagccg ggctcaccct tgttaccgct     360
```

ctctcctttg gagccag   377

<210> 1128
<211> 253
<212> DNA
<213> Homo sapien

<400> 1128
gagagctatt gctttgttaa gatataaaaa ggggtttctt tttgtctttc tgtaaggtgg   60
acttccagct tttgattgaa agtcctaggg tgattctatt tctgctgtga tttatctgct   120
gaaagctcag ctggggttgt gcaagctagg gacccattcc tgtgtaatac aatgtctgca   180
ccaatgctaa taaagtccta ttctctttta tgagaaagaa aaagacactg tcctttaaag   240
tgctgcagta tgg   253

<210> 1129
<211> 314
<212> DNA
<213> Homo sapien

<400> 1129
ccaagagcta caatgagcag cgcatcagac agaacgtgca ggtgtttgaa ttccagttga   60
cttcagagga gatgaaagcc atagatggcc taaacagaaa tgtgcgatat ttgacccttg   120
atattttgc tggccccca attatccatt ttctgatgaa tattaacatg gagggcattg   180
catgaggtct accagaaggc cctgcgtgtg gatggtgaca cagaggatgg ctctatgctg   240
gtgactggac acatcgcctc tggttaaatc tctcctgctt ggtgatttca gcaagctaca   300
gcaaagccca ttgg   314

<210> 1130
<211> 239
<212> DNA
<213> Homo sapien

<400> 1130
ccagtccaac ctgctcctca ttattgtata aatgagcaga atcaatatgg cggaagtcag   60
cttcaattgc caatttggtg gcctctaaag ctttactttt aggaacctct gcaggcgcat   120
aggtgccaaa tcccaggaca ggcatgaagt gaccatcatt cagcttcaca cactgatatt   180
tcgaatccat ttctgtcact agcctggcta gcaaatgttt cttcctccct cacaggcta   239

<210> 1131
<211> 402
<212> DNA
<213> Homo sapien

<400> 1131
aaggagtcct gcttatcaca atgaatgttc tcctgggcag cgttgtgatc tttgccacct   60
tcgtgacttt atgcaatgca tcatgctatt tcatacctaa tgagggagtt ccaggagatt   120
caaccaggaa atgcatggat ctcaaaggaa acaaacaccc aataaactcg gagtggcaga   180
ctgacaactg tgagacatgc acttgctacg aaacagaaat ttcatgttgc acccttgttt   240
ctacacctgt gggttatgac aaagacaact gccaaagaat cttcaagaag gaggactgca   300
agtatatcgt ggtggagaag aaggacccaa aaaagacctg ttctgtcagt gaatggataa   360
tctaatgtgc ttctagtagg cacagggctc ccaggccagg ac   402

<210> 1132
<211> 304

<212> DNA
<213> Homo sapien

<400> 1132
```
ccaccccgga gatgacacga ggctcacatg actctagaca cttggtggaa agtgaggcga    60
gaaaaacaat gacttgggcc aattacacga ctgcaaagct agagctgcca acagggctcc   120
agggagcttg gcttctgtag aagttctaag gaagcggtac gaactccacg gcggtggggc   180
gctaactagc agggacccct gcaagtgttg gtcggggcc tcgagctgcc tgagctgaca   240
cgaggggagg ggtctgtgta gccaacaggt gaccgaaggg cttgcctgcc cacagcttac   300
ttgg                                                                304
```

<210> 1133
<211> 224
<212> DNA
<213> Homo sapien

<400> 1133
```
ctgacatttt ctatagtaga tatggaggag gtccaagact aactgtgaaa gccctgtgta    60
aggaatgtgt agtagaacgt tgtcgcatat tgcgtctgaa gaaccaacta aatgaagatt   120
ataaaactgt taataatctg ctgaaagcag cagtaaaggg cagcgatgga ttttgggtgg   180
ggaagtcctc cttgcggagt tggcgccagc tagctcttga acag                    224
```

<210> 1134
<211> 250
<212> DNA
<213> Homo sapien

<400> 1134
```
cctactctgc tgaggtggcg cttcctgcta agggcccttc tctgcccttt ctgccctcct    60
tcccatccca catgctgagc cgccacaaag accaaagaag tgatggcttt tctctgtccc   120
ctgctgctct gaggggagag gggtgggtct cctgagccac tcagatggga aagtcccta   180
ctcggcccct ccctccccag cagccccaag ctttacactg gatgcagcga tcaacccacc   240
actcaccagg                                                          250
```

<210> 1135
<211> 315
<212> DNA
<213> Homo sapien

<400> 1135
```
ccaatgggct ttgctgtagc ttgctgaaat caccaagcag gagagattta accagaggcg    60
atgtgtccag tcaccagcat agagccatcc tctgtgtcac catccacacg cagggccttc   120
tggtagacct catgcaatgc cctccatgtt aatattcatc agaaaatgga taattagggg   180
ggccagcaaa aatatcaagg gtcaaatatc gcacatttct gtttaggcca tctatggctt   240
tcatctcctc tgaagtcaac tggaattcaa acacctgcac gttccgtctg atgcgctgct   300
cattgtagct cttgg                                                    315
```

<210> 1136
<211> 377
<212> DNA
<213> Homo sapien

<400> 1136
```
cctgccgtcg atgccaggga ggccgacagg accttctttt ccagcggggc cgatatttcc    60
```

```
aggggaacca ggaagacctc tgggtcccat gagaccaggc tccccagggc gaccagcatc    120
tccattaggt cctcggactc cagcagggcc acttgcacca cgactaccag gagggcccat    180
gacgccagct ctgccatcag ctccaggaag accacgagaa ccaggactac ctctcagccc    240
aggaggtcct ggagggccgg cagatccagc ttccccatta gggcctctct ttccttcttc    300
accactggga ccaggaggac cttggggccc agcagagccg ggctcaccct tgttaccgct    360
ctctcctttg gagccag                                                   377
```

<210> 1137
<211> 250
<212> DNA
<213> Homo sapien

<400> 1137
```
ctgttcaact tccaactcta aataggcacc attaaacaaa aaaccccagt attttaaatt     60
tctccagcac acattccagg atcaatgctc tgaactgtaa tcagctagta attcataacg    120
ggaatacagc cttagaatgg aagctatatt gcttccctgc cccctttctc ttacaattgg    180
agagtgtagg tattaaggga tacaaagtca gaggaagaat aattaaaaag aaaaatgccc    240
aaagctgcag                                                           250
```

<210> 1138
<211> 511
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(511)
<223> n = A,T,C or G

<400> 1138
```
tcgaccaggt cctcctgggc catctggtcc ccgaggtcag cctggtgtca tgggcttccc     60
cggtcctaaa ggaaatgatg gtgctcctgg taagaatgga gaacgaggtg gccctggagg    120
acctggccct cagggtcctc ctggaaagaa tggtgaaact ggacctcagg gacccccagg    180
gcctactggg cctggtggtg acaaaggaga cacaggaccc cctggtccac aaggattaca    240
aggcttgcct ggtacaggtg gtcctccagg agaaaatgga aaacctgggg aaccaggtcc    300
aaagggtgat gccggtgcac ctggagctcc aggaggcaag ggtgatgctg gtgcccctgg    360
tgaacgtgga cctcctggat tggcaggggc cccaggactt agaggtggag ctggtccccc    420
tggtcccgaa ngaggaaagg gtgctgctgg tcctcctggg ccacctggtg ctgctggtac    480
tcctggtctg caaggaatgc ctggagaaag a                                   511
```

<210> 1139
<211> 505
<212> DNA
<213> Homo sapien

<400> 1139
```
ctgtggactc cagcatgttt ctgataatta tgcaagcaac aattctgtag cctcaagtaa     60
gaccacctgt gaacttgatc attatctggc ccaaatatga agataaacta taactttgga    120
gtttgtttcc tatttgtatt cacattctgc ttcctaaatc agttttctaa attgtgcctg    180
caattaggca ttggtcaggg gtgaatggct cttttcacag agagtagcca accagagacc    240
tttgctttga tatcatcaac tgcagagaat gctgttgatg ggaatgctgg aagcagaaac    300
tttgtcatcg gaaaaacttt tcttgtatgc atgagactca acatcaggat ccacagctta    360
aagatgggaa ttcaggtatg aaagaaaaca ggcaaggagg cactgaggga gaaagacaca    420
gactttatcg ctctgtggct cattgttact ggaatattct aaaactcttg ttcacatgct    480
```

```
attatgactt ataaagcagc aacag                                        505


<210> 1140
<211> 256
<212> DNA
<213> Homo sapien


<400> 1140
ctgtagcttc tgtgggactt ccactgctcg ggcgtcaggc tcaggtagct gctggccgcg    60
tacttgttgt tgctctgttt ggagggtttg gtggtctcca ctcccgcctt gacggggctg   120
ccatctgcct tccaggccac tgtcacagct cccgggtaga agtcactgat cagacacact   180
agtgtggcct tgttggcttg gagctcctca gaggagggcg ggaacagagt gacagtgggg   240
ttggccttgg gctgac                                                   256


<210> 1141
<211> 371
<212> DNA
<213> Homo sapien


<400> 1141
ccagggcccc attctgtctg tgggactgtg ggttctcagt ggaattgttg cctttcttgt    60
cgtggagaaa tttgtgagac atgtgaaagg aggacatggt cacagtcatg gacatggaca   120
cgctcacagt catgcacgtg gaagtcatgg acatggaaga caagagcgtt ctaccaagga   180
gaagcagagc tcagaggaag aagaaaagga aacaagaggg gttcagaaga ggcgaggagg   240
gagcacagta cccaaagatg ggccagtgag acctcagaac gctgaagaag aaaaaagagg   300
cttagacctg cgtgtgtcgg ggtacctgaa tctggctgct gacttggcac acaacttcac   360
tgatggtctg g                                                        371


<210> 1142
<211> 312
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(312)
<223> n = A,T,C or G


<400> 1142
cctcccacac tgtcaaatgt caactccacc agcactgaga caatgagtag atgagaatgt    60
agaaagaggg aaggtggtag gtaaaggagc ggaaggaaga ggtggggaaa gagggaaggt   120
ggtaggtaaa ggagcggaag gaagaggtgg ggaaagaggg aaggagagaa gggaaggagg   180
gaagagaaag aaggaagaaa aggaaagcat ggcccggcta gagacaaagc cagaggtgat   240
caggtcagca gcaggagagg ctcagaaggg agcctctcgg gaagtgcagg cngccatgag   300
ggctcgtttc ag                                                       312


<210> 1143
<211> 367
<212> DNA
<213> Homo sapien


<400> 1143
ccagacgtgg tggctcacac ctgcaatccc agcaccttag gaggccgagg caggaggatc    60
cttgaggtca ggagttcgag accagcctcg ccaacatggt gaaaccccat ttctactaaa   120
```

```
atacaaaaaa ttagccaagt gtggtggcat atgcctgtaa tcccaactac tcagaaggcc    180
gaggcaggag aattacttga acgcaggaga atcactgcag cccaggaggc agaggttgca    240
gtgagccgag attgcaccac tgcactccag cctgggtgac tgagcaagac tccatctcag    300
taaataaata aataaataaa aagcgctgca gtagctgtgg cctcaccctg aagtcagcgg    360
gcccagg                                                               367


<210> 1144
<211> 159
<212> DNA
<213> Homo sapien


<400> 1144
cctggaggag cggccgcaca cacagccagg cgctaggctc cctgcgggac ctcgggaagg     60
gggaagagcg tcaacgattt acggagggtc cagccgctgg gtcagattga dacaaaccat    120
tgtgtggttg ggttcgggtc agcaggctgg agagggttc                           159


<210> 1145
<211> 450
<212> DNA
<213> Homo sapien


<400> 1145
ccatgggtgt ctggagcacc ctgaaactgt atcaaagttg tacatatttc caaacatttt     60
taaaatgaaa aggcactctc gtgttctcct cactctgtgc actttgctgt tggtgtgaca    120
aggcatttaa agatgtttct ggcattttct ttttatttgt aaggtggtgg taactatggt    180
tattggctag aaatcctgag ttttcaactg tatatatcta tagtttgtaa aaagaacaaa    240
acaaccgaga caaaccctttg atgctccttg ctcggcgttg aggctgtggg gaagatgcct    300
tttgggagag gctgtagctc agggcgtgca ctgtgaggct ggacctgttg actctgcagg    360
gggcatccat ttagcttcag gttgtcttgt ttctgtatat agtgacatag cattctgctg    420
ccatcttagc tgtggacaaa gggggggtcag                                    450


<210> 1146
<211> 324
<212> DNA
<213> Homo sapien


<400> 1146
ccatacaggg ctgttgccca ggccctagag gtcattcctc gtaccctgat ccagaactgt     60
ggggccagca ccatccgtct acttacctcc cttcgggcca agcacaccca ggagaactgt    120
gagacctggg gtgtaaatgg tgagacgggt actttggtgg acatgaagga actgggcata    180
tgggagccat tggctgtgaa gctgcagact tataagacag cagtggagac ggcagttctg    240
ctactgcgaa ttgatgacat cgtttcaggc cacaaaaaga aaggcgatga ccagagccgg    300
caaggcgggg ctcctgatgc tgga                                           324


<210> 1147
<211> 191
<212> DNA
<213> Homo sapien


<400> 1147
ccacgaaaat caatgagaag ccacaggtga tcgcggacta tgagagcgga cgggccatac     60
ccaataacca ggtgcttggc aaaatcgagc gggccattgg cctcaagctc cggggaaagg    120
acattggaaa gcccatcgag aaggggccta gggcgaaatg aacacaaagc ctcgaaatca    180
gtgtgctcca g                                                         191
```

```
<210> 1148
<211> 344
<212> DNA
<213> Homo sapien

<400> 1148
ctgtccaatg acaacaggac cctcactcta ctcagtgtca caaggaatga tgtaggaccc      60
tatgagtgtg gaatccagaa cgaattaagt gttgaccaca gcgacccagt catcctgaat     120
gtcctctatg gcccagacga ccccaccatt tcccctcat acacctatta ccgtccaggg      180
gtgaacctca gcctctcctg ccatgcagcc tctaacccac ctgcacagta ttcttggctg     240
attgatggga acatccagca acacacacaa gagctcttta tctccaacat cactgagaag     300
aacagcggac tctatacctg ccaggccaat aactcagcca gtgg                      344


<210> 1149
<211> 329
<212> DNA
<213> Homo sapien

<400> 1149
ctgacccact cactgggcgg gggcacaggc tctggaatgg gcactctcct tatcagcaag      60
atccgagaag aataccctga tcgcatcatg aataccttca gtgtggtgcc ttcacccaaa     120
gtgtctgaca ccgtggtcga gccctacaat gccaccctct ccgtccatca gttggtagag     180
aatactgatg agacctattg cattgacaac gaggccctct atgatatctg cttccgcact     240
ctgaagctga ccacaccaac ctacggggat ctgaaccacc ttgtctcagc caccatgagt     300
ggtgtcacca cctgcctccg tttccctgg                                       329


<210> 1150
<211> 406
<212> DNA
<213> Homo sapien

<400> 1150
ccagttattt gcaagtggta agagcctatt taccataaat aatactaaga accaactcaa      60
gtcaaacctt aatgccattg ttattgtgaa ttaggattaa gtagtaattt tcagaattca     120
cattaacttg attttaaaat cagttttgtg agtcatttac cacaagctaa atgtgtacac     180
tatgataaaa acaaccattg tattcctgtt tttctaaaca gtcctaattt ctaacactgt     240
atatatcctt cgacatcaat gaactttgtt ttcttttact ccagtaataa agtaggcaca     300
gatctgtcca caacaaactt gccctctcat gccttgcctc tcaccatgct ctgctccagg     360
tcagccccct tttggcctgt ttgttttgtc aaaaacctaa tctgct                    406


<210> 1151
<211> 346
<212> DNA
<213> Homo sapien

<400> 1151
ctgcgtgagt accaggagct gatgaacgtc aagctggccc tggacatcga gatcgccacc      60
tacaggaagc tgctggaggg cgaggagagc cggctggagt ctgggatgca gaacatgagt     120
attcatacga agaccaccag cggctatgca ggtggtctga gctcggccta tggggggctc     180
acaagccccg gcctcagcta cagcctgggc tccagctttg gctctggcgc gggctccagc     240
tccttcagcc gcaccagctc ctccagggcc gtggttgtga gaagatcga gacacgtgat      300
gggaagctgg tgtctgagtc ctctgacgtc ctgcccaagt gaacag                    346
```

<210> 1152
<211> 427
<212> DNA
<213> Homo sapien

<400> 1152
```
ctggactgct gtacatcaag gacagattaa ctggaaaaca tatgttcctt atgcgtgatc      60
gagagccatt cagaaaagac ttcctttgtg ttcagcctat acttttccat atggtatacc     120
ttgaaaaaaa ttagcacacc atggttattt ttctaccttt tataaaagac agagcctgtt     180
tactcattta gaagatagag aaaattggtc taaaattgaa catcctagat tcacactccc     240
aagtcactta aggtgatttg atggtgagga aaatgattga cagagcccaa caatgatctc     300
aggaattaca ttttccaaca gaccaaaaaa tgttttcatg tagcagcaat gcagatttgg     360
tgaatattta atatatattt tagtatgtat ttcactttat gactgacaat taaaaaatat     420
tgtttgg                                                                427
```

<210> 1153
<211> 331
<212> DNA
<213> Homo sapien

<400> 1153
```
ctggccggcg gtgcagatct ggagtccagc ctcagggatg cgctactttc cattctctgc      60
attgaacatt cgttctgtca gcatccgctc cagcttcact gcatcagcgg caaacttgcg     120
gatcccgtca gagagcttct ccacagccat ctggtcctcg ttgtgcaacc aacggaaaga     180
cttctcatcc aggtggattt tttccaggtc actggcttgg gctgggggac aagaaccagc     240
cttccatgcc tgctccatgt ccctgcccac cttggcccct tgggctcagg gcctgaaccg     300
ctgcacccaa gcatctccca ccagggccag g                                    331
```

<210> 1154
<211> 403
<212> DNA
<213> Homo sapien

<400> 1154
```
ctgaactttc agatgaagtt gacttctact tgattgcagg attcagggtt tctcagatgt      60
taatacagag tcaaaagcgg tggataaaac cttgcaaatg gcttgtgctt gttccaggct     120
gttgcactga taaacccaca ggctgtattc ctcattgctt gcatctgtgg tcttcagagc     180
cagtaagctt tttcccgccc ccagaccgtc atcgtaacac accatccgga ttattaagta     240
gagagcatgc ctgtgcaaaa catcatattg atctgatgtt gatactttta tgccatactt     300
ggaaactccc ataataaatt cttcctccgg aggaacaaaa ggcaactttc catcttgctg     360
ggcaacgtct atataattta tcaggtctaa tggcccttca agg                       403
```

<210> 1155
<211> 491
<212> DNA
<213> Homo sapien

<400> 1155
```
cctccctctc agagcttgcc ccagggactc tctggccctc agggttcaat gtattctgac      60
caaggccaag ctttcctggg gctcagggaa aatcacactt tgctacccga agctgtatcc     120
cctcagatgc caggaaggcc gtgatcatct gactccaccc tcctgagaca cattctctcc     180
ctgactgtcc tgttctaagt cagcggagca ccttaggatg gagggtgga ggcgaggcca      240
gatgcagcct ctgtgaacag gtgcctggag gctgggaaat gaccctgaga gggcaggaca     300
cagcaaccgt gggcttaagg tgaccttgag agcaagcttg gcccacttta caattctgtt     360
```

```
cagagccagc ccctaacatg gtggtcattt attcatttgt tccctcattt taaaaaatgt      420
aaggccaggc atggtggctc acgccgggta atcccagcac tttgggaggc cgaggcaggc      480
agatcacctg a                                                          491
```

<210> 1156
<211> 586
<212> DNA
<213> Homo sapien

<400> 1156
```
agcaaataga agcaatcagg gcactgcaag ttgtgactac tccaagatgt gaatcatgga       60
tcatgcaaat tacaatcatg ttttaacctg acctccaaag ggagaataaa gtaaaaatta      120
tcccatgtga ggattattca ccagtttata tgtcattagt taccagtttt tctttatgaa      180
taatgtttag caatattata aagtatatct aatagttatc aggtttttgg cttgttactt      240
tttggtagta acttataaaa ctgactggaa aagaccaata aggcactgtt tgcatgttac      300
aaattatatc caaagaccaa aagctgttaa taagaaatct tccaataaaa ccacatcata      360
ttttcttttt tatttacacc cacatcagga ttacaacttt atcaggactg caccttgatc      420
aggaagggat gtttctctta caaggctaat aagaaaggaa caataaattt gctgatgaaa      480
aaagtcatgc atttaaaaat tttaacttta atttttaatt gagggcaata ttttaaagaa      540
atgctcatta gtcattcctt taaattgtgt gtgtgagaga gagaaa                     586
```

<210> 1157
<211> 392
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

<400> 1157
```
cctccggctg gtgttctgag ggttgccagg ccatcgtgga cacaggcacc tctctgctca       60
ctgtgcccca gcagtacatg agtgctcttc tgcaggccac aggggcccag gaggatgagt      120
atggacagtt tctcgtgaac tgtaacagca ttcagaatct gcccagcttg accttcatca      180
tcaatggtgt ggagttccct ctgccacctt cctcctatat cctcagtaac aacggctact      240
gcaccgtggg agtcgagccc acctacctgt cctcccagaa cggccagccc ctgtggatcc      300
tcggggatgt cttcctcagg tcctactatt ccgtctacga cttgggcaac aacagagtag      360
gctttgccac tgncgcctag acttgctgnc tc                                    392
```

<210> 1158
<211> 375
<212> DNA
<213> Homo sapien

<400> 1158
```
gggaaaaata attttattcc tcaaatgatc agcacattca gaagcaggac agaggagctc       60
tgatgacatc tctgggggac tcaaagcggc cctcattttc tggtattttc ccaggtgatt      120
ctcttccaac ctgtgagtcc tgctctcttt cctcccatct gaagtttgag acatcctctg      180
ccacaaggaa agccaccaat accagcccaa agagccacca gagaggaacc aaaccacatg      240
catcaagtta taggaaggat gcaagaaggg aaattaggaa ggaaagggag gagtttagtt      300
ggcattctgg ggcatgctaa catgagggcg atggtctctc tccaagtcgc tggacatatc      360
cctttctttt ccagg                                                       375
```

```
<210> 1159
<211> 361
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(361)
<223> n = A,T,C or G

<400> 1159
gtttattgta aaaaacaaaa aactctgtat tgtgcacatg aagacctgga gatgtgccga      60
cttcctgtcc ccaaagccaa tcttccccgc caaggcgact gaggatttca agggctcaga     120
gttactgcag gaatccaggt gacaccagga agagaagggg gaggagggga atcggagggg     180
atgggtttaa aaggcagagg ggagggagat ggaagggaat gaggaggagg gagactgagg     240
gggctgcctt tccttgggga ctggggaact catgccctgc ccccacccgc agggctccag     300
gggtgagaga aaggggtgga gaataaagaa ttgggcanca gggtgatggg gggaacagca     360
g                                                                     361

<210> 1160
<211> 142
<212> DNA
<213> Homo sapien

<400> 1160
cgcaatgttg ccagtgtctg tctgcaggtt ggctacccaa ctgttgcatc agtaccccat      60
tctatcatca acgggtacaa acgagtcctg gccttgtctg tggagacgga ttacaccttc     120
ccacttgctg aaaaggtcaa gg                                              142

<210> 1161
<211> 193
<212> DNA
<213> Homo sapien

<400> 1161
ccaaagccta cgaccacctc ttcaagttgc tgctgatcgg ggactcgggg gtgggcaaga      60
cttgtctgat cattcgcttt gcagaggaca acttcaacaa cacttacatc tccaccatcg     120
gaattgattt caagatccgc actgtggata tagaggggaa gaagatcaaa ctacaagtct     180
gggacacggc tgg                                                        193

<210> 1162
<211> 265
<212> DNA
<213> Homo sapien

<400> 1162
cctgggtgcc acgattccca gcctggagcg cagccaggac gtgggagacc ttctcagaga      60
ctctccgggc acactctatg agctccttct tggtgtaggc atcactgggg ctgcactgca     120
gggcgcctgc cttggtgacc agagcggcac agccatggcc cagctcctgt acccggtgtt     180
tgatatggga acctatctct tcattttcag cagccaccgc tgcaggcttg gcctccgagg     240
ccagacggcc atagtcactg gtcag                                           265

<210> 1163
<211> 337
```

```
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(337)
<223> n = A,T,C or G

<400> 1163
ctgcagagtg ggganaggct tttgccacta gaaacttcca ggatgcacga gatcaaggaa        60
ttaagtctgt aacaaaataa caggatgctc tgtgaagtcc aaagaattgc ttgaggcaaa       120
ctgcagagct ccatgagatc agcaacccca agagctttta caccgccgga cacggtttaa       180
taggaaaaaa atctcctata ctgnntattc anaaccaaat gaanagaaat gtcaaaggag       240
tcggaaacaa tatgtcaaat tangtaaatt cctgacctga cccanatttt gcngaacatt       300
tgatcctaaa ctgtgctgtc cacgtcctta ggatcac                               337

<210> 1164
<211> 368
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(368)
<223> n = A,T,C or G

<400> 1164
ccagacgtgg tggctcacac ctgcaatccc agcaccttag gaggccgagg caggaggatc        60
cttgaggtca ggagttcgag accagcctcg ccaacatggt gaaaccccat ttctactaaa       120
aatacaaaaa attagccaag tgtggtggca tatgcctgta atcccaacta ctcagaaggc       180
cgaggcagga gaattacttg aacgcaggag aatcactgca ncccangagg canaggttgc       240
antgagccga gattgcacca ctgcactcca gcctgggtga cagagcaaga ctccatctca       300
gtaaataaat aaataaataa aaagcgctgc agtagctgtg gcctcaccct gaagtcagcg       360
ggcccagg                                                               368

<210> 1165
<211> 267
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(267)
<223> n = A,T,C or G

<400> 1165
ctgggaagga ggctcctccg ccttctcctg tttgtcatcc tcctcatcag actcgacctc        60
catctcaact tcctcactct ccccaaactt ttcatagcgc tcctgaatga ggattcgggc       120
ccccagctcc tctggcgtgg tggggggagg gaagttccct tgctcattgg gttggaagnc       180
cactgtttcc accaccacaa aatcatgcca ntcnatctga gcataggcca cccgntcctt       240
ctccttctcc nnttcttcct tcttcct                                          267

<210> 1166
<211> 433
```

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(433)
<223> n = A,T,C or G

<400> 1166
ctgtctgtac acttttctt ggggaagag ttcttgtctt cagtttactg cagtagggtt   60
cctggctctg ttacatgctc atgtgttccg gaagaacaca tgaaatatca tcccacggat   120
gacgatacag cccctgcttc ancctcttct gatcaagata gtgtccaatg aaccccatac   180
tccttcccag cacaaagatg ccattgaggg ctccaatgtc aatatattca tcagcttcct   240
ccctgcaaca cacatcaact tgtagtttta aaaggctcac gtgactgccc tcctccccac   300
agacagtact actactgccc aanaatgaga agaaaagggg tgctctgggt ggtngcatta   360
caggcaattt ttgttntctt nnttatacct ctccttattt tncaaatntt ctattatgag   420
tntgcattac ttt   433

<210> 1167
<211> 362
<212> DNA
<213> Homo sapien

<400> 1167
cctctggctc tttcttcagc cacttctcca gctcctgcag gttctggtct gagtagtcag   60
tgacgacgat ctccttaaag gattcacaag cagagaggag ctgatagata gtggggccag   120
agccgatgtc aatcagcagg tctcccttca caccgtctag gcagaatatc ttgaaaagat   180
ttttcagaag gtgcttaaga atctggcttt ctgcagagtg cctagaacca aacttgtaat   240
attttctag gtaatcccga gggttaaaat ggcttagata ggtgtccttg gaggtgaagc   300
ctgattccat tatgtctcac ttccgtacca ctggagcact gccctccttc tctttcctcc   360
ag   362

<210> 1168
<211> 459
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(459)
<223> n = A,T,C or G

<400> 1168
gcagtcatgg ggcccaggac catgccactg gccctgctcc cccagccgca gcctcacctg   60
caggtgctcc tcgatgtcct tgcggtcgta ggtgatgcca ctgggcgtga tgcacggctc   120
ccgcatcagc tcaaagctga tcttgccaca caggtagtcg gggatgtctc gcttctgtgg   180
cacaggggca cacggtcaga ggctgaaaag gggcactgca cgagcacctg ccagccatcg   240
gcagcaagcg acacacactc accttcctct tctcatccac ctgagaaaaa agctcgtcca   300
tgtccgccat gtacttgtcc tgtgaagagt tgagtgctgt gcttggggga gacaccccac   360
ctccctcctn catggggcac anacccaaca caaggcgggg atgctnccac gccacgtgca   420
cacacacaga cccacatgtg ggtgggggc accctcacg   459

<210> 1169
<211> 386

```
<212> DNA
<213> Homo sapien

<400> 1169
ccaggccacc tgtgcggggc tcctcgatgt ggaaggttcg ggtgaggaga ttgtagaagg      60
agccgtagca cacggccacc acagtgcacg tgaggcagat cacgctgtag ggcatgctga     120
agtccggtgt cggcaggttc accagcagcg gctccgtgta gagccgcaca aagtagttag     180
agccatcaga gactgggaac aggctgttga agaggggact ctcttcccag tccactggct     240
tggctgctac catgctgggc acaagggcgc tgaggacaga tgggctgaca tagaagccat     300
ggttaggatc tggcgtgtac tcggtccact tcagcagcgc ccgctcaaac tggatggaaa     360
ccttggtgac tgagttggcc ggccag                                          386


<210> 1170
<211> 480
<212> DNA
<213> Homo sapien

<400> 1170
ctatttctct gttagtgttt aaccaaccat ctgttctaaa agaagggctg aactgatgga      60
aggaatgctg ttagcctgag actcaggaag acaacttctg cagggtcact ccctggcttc     120
tggaggaaag agaaggaggg cagtgctcca gtggtacaga agtgagacat aatggaatca     180
ggcttcacct ccaaggacac ctatctaagc cattttaacc ctcgggatta cctagaaaaa     240
tattacaagt ttggttctag gcactctgca gaaagccaga ttcttaagca ccttctgaaa     300
aatcttttca agatattctg cctagacggt gtgaagggag acctgctgat tgacatcggc     360
tctggcccca ctatctatca gctcctctct gcttgtgaat cctttaagga gatcgtcgtc     420
actgactact caggaccaga acctgcagga gctggagaag tggctgaaga aagagccaga     480


<210> 1171
<211> 317
<212> DNA
<213> Homo sapien

<400> 1171
cctcagcagc cctgccacgg atctgcccga ttctttcgca tcaagaagtt gatcttgcga      60
gccatttcca tgttgtagat ccgccggcac ctttcatagc tttccctctg tcgccggcgg     120
catggcttct cataataccg ccgatgctta atgtcctcaa tgagcccatc catagtgagg     180
attctgttta gggtcctgta tgcgctttcc acgttccctt cctgtaccat cacagtcctg     240
gcgatgaact tcagatgttt tgccatgacc ttggatttaa accttcactc tgtagagcct     300
cgcgcgctca gtaccta                                                    317


<210> 1172
<211> 202
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(202)
<223> n = A,T,C or G

<400> 1172
ggcaacggga ggaacagcag cagaggcagc angagcagga ggagcgtgaa cgagaagagc      60
ancggcgatn ngctgcnctc agtgaccgan agaagagagc tctggctgca nagcgccgac     120
tcgctgccca gttgggagcc cctacctctc caatccctga ctctgcaatc gtcaatactc     180
```

```
gacgctgctg gagttgtggg gc                                             202


<210> 1173
<211> 173
<212> DNA
<213> Homo sapien


<400> 1173
ctgcctgggt tgtggccgcc ctagcatcct gtatgcccac agctactgga atccccgctg      60
ctgctccagg ccaagcttct ggttgattaa tgagggcatg gggtggtccc tcaagacctt     120
cccctacctt ttgtggaacc agtgatgcct caaagacagt gtcccctcca cag            173


<210> 1174
<211> 301
<212> DNA
<213> Homo sapien


<400> 1174
ccaagagcta caatgggcag cgcatcagac agaacgtgca ggtttttgag ttccagttga      60
ctgcggagga catgaaagcc atagatggcc tagacagaaa tctccactat tttaacagtg     120
atagttttgc tagccaccct aattatccat attcagatga atattaacat ggagagcttt     180
gcctgatgtc taccagaagc cctgtgtgtg gatggtgacg cagaggacgt ctctatgccg     240
gtgactggac atatcacctc tacttaaatc cgtcctgttt agcgacttca gtcaactaca     300
g                                                                    301


<210> 1175
<211> 537
<212> DNA
<213> Homo sapien


<400> 1175
cctgcagggc tcggccgtag gagaaggtca gggcccaggg cttcagcagg gggcacttgt      60
taatggcatt gaggttgatg gacgcctcct cctcactctg gcctccagac aggaaggtga     120
tcccagtgac agcggggggc actgtgcggc gcagcgctgt gacggtcgcc atggcaatct     180
cctcatgaga aaacttctga gtgcaagcat ggcctggggt gaccatgttg ggcttcagca     240
aggtgccttc caggtagatg tggtggtcac tcagagcctt gtagacagca gccagcacct     300
tctcggtcac atactggcag cgcttcaagt catggtcccc atcagggagg atctcaggct     360
ccacgatggg cacaatgcca ttctgctggc agatactggc ataacgggcc agaacattgg     420
cattttccat gatggcgagg gctgagggg tgtgttcccc aatcttcagc acacaacgcc      480
acttggcgaa gtcagctccg tccttcttgt actgggcaca gcgctcagac agcccat        537


<210> 1176
<211> 384
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(384)
<223> n = A,T,C or G


<400> 1176
ctgacaaaaa atgtgaaatt tccacaaaat atccaactta tgtgactaaa cgcagtagtt      60
tttttaaaag gggagataga aaataaatgg ttttgttgga gtgcatttta gtaagccttt     120
```

```
gcagtaaaat gacggttgta actactaaac caaatttagt tttcacagca tggttttgtt      180
gttttcccct tgtttttcag aggtaaattt tgcattatat ccttcagtat tttaacacta      240
ttttggcagt ttacacatta ctttttgntt ttccttcctt tttgngaaat gtattaagtt      300
gtggttctta ttgaaacagt attatataat gttngcttaa ttatatcatg tgatgctcan      360
ntctattntg atttattcat tagt                                            384
```

<210> 1177
<211> 562
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(562)
<223> n = A,T,C or G

<400> 1177
```
ccaacaacat gcaggaagct cagagtatcg atgaaatcta caaatacgac aagaaacagc       60
agcaagaaat cctggcggcg aagccctggg ctaaggatca ccattacttt aagtactgca      120
aaatctcagc attggctctg ctgaagatgg tgatgcatgc cagatcggga ggcaacttgg      180
aagtgatggg tctgatgcta ggaaaggtgg atggtgaaac catgatcatt atggacagtt      240
ttgctttgcc tgtggagggc actgaaaccc gagtaaatgc tcaggctgct gcatatgaat      300
acatggctgc atacatagaa aatgcaaaac aggttggccg ccttgaaaat gcaatcgggt      360
ggtatcatag ccaccctggc tatggctgct ggctttctgg gattgatgtt agtactcaga      420
tgctcaatca gcagttccag gaaccatttg tagcagtggt gattgatcca acaagaacaa      480
tatccgcagg gnaaagtgaa tcttggcgcc tttaggacat acccaaaggg ctacaaacct      540
nctgatgaan gaccttctga gt                                              562
```

<210> 1178
<211> 353
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(353)
<223> n = A,T,C or G

<400> 1178
```
cgcgtctgga tggccgaatc attcgcacag actgggacgc aggctttaag gagggcaggc       60
aatacggccg tgggcgatct gggggccagg ttcgggatga gtatcggcag gactacnatg      120
ctgggagagg aggctatgga aaactggcac agaaccagtg agtggtgaga gctctgtcag      180
tgacaaacac tcctttggcc tgttgaattt gctgaagaac atcacctaaa gtctgcacac      240
gagcccattt ttaccaagat ttgatcagtg tctttactga gctggaagcc tctgaaagtt      300
attaaaggac agaatccaaa agaatgcctt taattcttgt ctgagaatct tgg            353
```

<210> 1179
<211> 288
<212> DNA
<213> Homo sapien

<400> 1179
```
ccaatgggat cctcaaggtg cctgccatca atgtcaatga ctccgtcacc aagagcaagt       60
ttgacaacct ctatggctgc cgggagtccc tcatagatgg catcaagcgg gccacagatg      120
```

```
tgatgattgc cggcaaggta gcggtggtag caggctatgg tgatgtgggc aagggctgtg    180
cccaggccct gcggggtttc ggagcccgcg tcatcatcac cgaggttgac cccatcaacg    240
cactgcaggc tgccatggag ggctatgagg tgaccaccat ggatgagg                  288
```

```
<210> 1180
<211> 523
<212> DNA
<213> Homo sapien
```

```
<400> 1180
ctggagagat ggagcggtgg gcaccgtcat ccttcctcat cagccacata gaaggacagt     60
ggcgatttca gcccagcttt tctgactgct tgtaaattga agcccagaac tggtttgcca    120
cctgtgggat cgactcagca ttttaaaata ggaggcagtc gtgagtgcag gtttcttgca    180
gctccgggtg gccctgggct ccaggtcagg agacctcagc tcctgtccct gatctgtggt    240
tgtcaagcct tgcagactct aaactcagca tctttatctg tcagacgtag acacgtggct    300
cccgtggttg gtgcggttgg aatagctgag gtaatacacg gacctccaag cactagagca    360
gtatgaggag ttctgaggaa tggttatcct gcggtgcctg tggtccacag caagccattc    420
ttatcccatc cggtttactt cccacagcca ctttgtaagc ataggcatta tcctctaccc    480
catcatagaa atgaggaaaa gaatcaccaa gagagtaagc agc                       523
```

```
<210> 1181
<211> 493
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(493)
<223> n = A,T,C or G
```

```
<400> 1181
cacagatgaa ggctttgtga tacctgatga aggggggccca caggaggagc aagaagagta     60
ttaacagcct ggaccagcag agtaacatcg gaattcttca ctccaaatca tgtgcttaac    120
tgtaaaatac tccctttttgt tatccttaga ggactcactg gtttctttttc ataagcaaaa    180
agtacctctt cttaaagtgc actttgcgga cgtttcactc cttttccaat aagtttgagt    240
taggagcttt taccttgtag cagagcagta ttaacaccta gttggttcac ctggaaaaca    300
gagaggctga ccgtggggct caccatgcgg atgcgggtca cactgaatgc tggagagatg    360
ttatgtaata tgctgaggtg gcgacctcag tggagaaatg taaagactga attgaatttt    420
aagctaatgt gaaatcanag aatgttgtaa taagtaaatg ccttaagagt atttaaaana    480
tgcttccaca ttt                                                        493
```

```
<210> 1182
<211> 329
<212> DNA
<213> Homo sapien
```

```
<400> 1182
cgcgtctctg acactgtgat catgataggg gttcaaacag aaagtgcctg ggccctcctt     60
ctaagtcttg ttaccaaaaa aaggaaaaag aaaagatctt ctcagttaca aattctggga    120
agggagacta tacctggctc ttgcccctaag tgagaggtct ccctcccgc accaaaaaat    180
agaaaggctt tctatttcac tggcccaggt aggggggaagg agagtaactt tgagtctgtg    240
ggcctcattt cccaggtgcc ttcaatgctc atcaaaacca ggcatgggga aggccctggc    300
aaactgctcc acccgttgcc tgaggttgg                                       329
```

```
<210> 1183
<211> 198
<212> DNA
<213> Homo sapien

<400> 1183
cctgacagac agaagggctt ggagattttt tttctttaca attcagtctt cagcaacttg      60
agagctttct tcatgttgtc aagcaacaga gctgtatctg caggttcgta agcatagaga     120
cgatttgaat atcttccagt gatatcggct ctaactgtca gagatgggtc aacaaacata     180
atcctgggga catactgg                                                   198


<210> 1184
<211> 224
<212> DNA
<213> Homo sapien

<400> 1184
ctggaggtgc ctcagaaggt gcattctgct tcctgcaggg gcttgaaaca ccaaggcact      60
ccagggatcc tggagtcaaa gcagcagccc cggttgttgc actccttggg ggtgacatgg     120
gggtagccgc agtccaccct gtccttggct ggcacggcac actggtttgc agacaggccc     180
acgtactcct cagcagagct ggaggacagc aaggccagga ccag                      224


<210> 1185
<211> 367
<212> DNA
<213> Homo sapien

<400> 1185
ccttttacag atgtcagctt tcactggcct ccatgcacaa cctcccacta ccacccaatc      60
tgcctgccac agcaaagtgc aggcaccctg ggcccctgg aggatgcggg cagggctac       120
agggcatcca ggatgtggtc gatcttggtg accagctcct ggcgctttcc tgagatgagc     180
ttctcattct caatgtacgt gtctttcttg agcttgccag ccaccaggcg ctcagcctcc     240
accgccgact tcagcaccag ctccttgacc tgtgcatcca gcttctgcat ttcgctcact     300
ctgtcgcaca gatcagagcc ctctgtcttc agcctggact gcagcagtgc aatctcactg     360
gtcaagg                                                               367


<210> 1186
<211> 188
<212> DNA
<213> Homo sapien

<400> 1186
ccattaagcg gatgctggag atgggagcta tcaagaacct cacgtccttc cgacctgggc      60
aagagctgta gcctgtcggt tgcctactct gctgtctggg tgacccccat gcgtggctgt     120
ggggtggct ggtgccagta tgacccactt ggactcaccc cctcttgggg agggagtcct     180
gggcctgg                                                              188


<210> 1187
<211> 379
<212> DNA
<213> Homo sapien

<400> 1187
gttgatgcta ctctgaagtc tctcaacaac cagattgaga cccttcttac tcctgaaggc      60
```

```
tctagaaaga gcccagctcg cacatgccgt gacttgagac tcagccaccc agagtggagc      120
agtggttact actggattga ccctaaccaa ggatgcacta tggatgctat caaagtatac      180
tgtgatttct ctactggcga aacctgtatc cgggcccaac ctgaaaacat cccagccaag      240
aactggtata ggagctccaa ggacaagaaa cacgtctggc taggagaaac tatcaatgct      300
ggcagccagt ttgaatataa tgtagaagga gtgacttcca aggaaatggc tacccaactt      360
gccttcatgc gcctgctgg                                                   379
```

```
<210> 1188
<211> 384
<212> DNA
<213> Homo sapien
```

```
<400> 1188
cgcgtcggac tgcagccagt ccgtttcctt tctttagcca gccatcctgg tactgtagtt      60
tagggggttga tggtggttga aattgatttc tggctggtta ctaaggtgcc tgctagccat      120
tgtataaaat taaaacatga agaatatttt tttttgagc atggctagtg gatttaaaac       180
aacacatacc tgtcactgct ggagtcaaac ttataaaaag ccttaagtgg aaagtgttcc      240
agacggagac tctgagttaa tagaggagta gaagctggtg ttaaagttcc cacgacgcac      300
atggctttgc cagaaactct gtttaatgat cggcctttca cctcttcact tatccttagt      360
cccagtagcc aggatacctg atgg                                            384
```

```
<210> 1189
<211> 419
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(419)
<223> n = A,T,C or G
```

```
<400> 1189
ggaaaaacca gccactgctt tacaggacag ggggttgaag ctgagccccg cctcacaccc      60
accccccatgc actcaaagat tggattttac agctacttgc aattcaaaat tcagaagaat    120
aaaaaatggg aacatacaga actctaaaag atagacatca gaaattgttg agttaagctt     180
tttcaaaaaa tcagcaattc cccagcgtag tcaagggtgg acactgcacg ctctggcatg     240
atgggatggc gaccgggcaa gctttcttcc tcgagatgct ctgctgcttg agagctattg     300
ctttgttaag atataaaaag gggtttcttt ttgtctttct gtaaggtnna cttccagctt     360
ttgattgaaa gtcctagggt gattctattt ctgctgtgat ttatctgctg aaagctcag     419
```

```
<210> 1190
<211> 173
<212> DNA
<213> Homo sapien
```

```
<400> 1190
ccaggtactg gcacatcatg ctctggatgg gggtggtggt gtcctgtagg cagagaaaca      60
ggaaattgtc gtagtcagta tcgagcagcg tggcctcgtt cgccaccgta tagttgatct     120
tgaacttctt tggattctca gtcttctctc caaggacctt cttctcaaca cag            173
```

```
<210> 1191
<211> 341
<212> DNA
<213> Homo sapien
```

<400> 1191
```
cctcctgcca gcagttcttg aagcttcttt ttcattcctg ctactctacc tgtatttctc      60
agttgcagca ctgagtggtc aaaatacatt tctgggccac ctcagggaac ccatgcatct     120
gcctggcatt taggcagcag agcccctgac cgtcccccac agggctctgc ctcacgtcct     180
catctcattt ggctgtgtaa agaaatggga aaagggaaaa ggagagagca attgaggcag     240
ttgaccatat tcagttttat ttatttattt ttaatttgtt cttttctcca agtccaccag     300
tctctgaaat tagaacagta ggcggtatga gataatcagg a                         341
```

<210> 1192
<211> 324
<212> DNA
<213> Homo sapien

<400> 1192
```
ttggaggttg gcggcgcggg gctgaaggct agcaaaccga gcgatcatgt cgcacaaaca      60
aatttactat tcggacaaat acgacgacga ggagtttgag tatcgacatg tcatgctgcc     120
caaggacata gccaagctgg tccctaaaac ccatctgatg tctgaatctg aatggaggaa     180
tcttggcgtt cagcagagtc agggatgggt ccattatatg atccatgaac cagaacctca     240
catcttgctg ttccggcgcc cactacccaa gaaaccaaag aaatgaagct ggcaagctac     300
ttttcagcct caagctttac acag                                            324
```

<210> 1193
<211> 521
<212> DNA
<213> Homo sapien

<400> 1193
```
ctgctttgtt ttctgttggc agtggaggga caaggtgaga ggagccaggg gtagtcatga      60
acaccagtgg gttctgccct gggcagctcc ccaccttctt taagagagta ctgtgtctca     120
gctccagcag tctcaactgg gaagacccag gactcctgct ctttttctcta atccctggga    180
gacgaggtcc agctaaggta gagtaagcag tcagtgacca ggcaggctgg tttgggaggt     240
cactgcctgg aggacgggat cttgtattct tcggaagatg gctgggaaat tcttccctcc     300
attacgtaga actttcttcc cctcctcagt tgaggtgcct agatgtccca caacggggtc     360
ttcactcagg tcctccagag gcacacgctc aaacagtggg tgctcttcga aatgagtgca     420
catccagtcg tgtagctcca gcacatcggt tatggtatac accagcccct gcataggcaa     480
aatcacccta gacaggaggc tgcatgcaac gtcagcagcc a                         521
```

<210> 1194
<211> 208
<212> DNA
<213> Homo sapien

<400> 1194
```
ccagtgacta gaaggcgagg cgccgcggga ccatggcggc ggcggcggac gagcggagtc      60
cagaggacgg agaagacgag ggagaggagg agcagttggt tctggtggaa ttatcaggaa     120
ttattgattc agacttcctc tcaaaatgtg aaaataaatg caaggttttg ggcattgaca     180
ctgagaggcc cattctgcaa gtggacag                                        208
```

<210> 1195
<211> 499
<212> DNA
<213> Homo sapien

```
<400> 1195
ccagaaagga aagacaataa ttttgttttt tcattttgaa aaaattaaat gctctctcct      60
aaagattctt cacctacttt ggtctccata acttctatgt tttctttcct tctgacacac     120
tagtgcccct aaaattgtgat ttgcctatac gtttagggcc ggggttggaa gatgttaaca    180
accatttaag attcatttct gcagtgggag tgggtggagt ttcaccctct gggaaagggg     240
caggtgacag gtatttatca gtcagtgcct ctctagctct tgtaggaaga agcacacgca     300
ggatggagtc tagaggatga gcgatattga ctagcaattc atgggctccc tccagcagtg     360
cgagggtcag agtttctgga gccttgggag gaggcatccc tgtgagggggg ggttagggag    420
atgggagggc accaggaaaa gtgattagaa gtcaggtatg ggaaggctaa attaggacag     480
agtcgagtac atctctgct                                                  499


<210> 1196
<211> 455
<212> DNA
<213> Homo sapien


<400> 1196
ctgacccccc tttgtccaca gctaagatgg cagcagaatg ctatgtcact atatacagaa      60
acaagacaac ctgaagctaa atggatgccc cctgcagagt caacaggtcc agcctcacag      120
tgcacgccct gagctacagc ctctcccaaa aggcatcttc cccacagcct caacgccgag      180
caaggagcat caagggtttg tctcggttgt tttgttcttt ttacaaacta tagatatata      240
cagttgaaaa ctcaggattt ctagccaata accatagtta ccaccacctt acaaataaaa      300
agaaaatgcc agaaacatct ttaaatgcct tgtcacacca acagcaaagt gcacagagtg      360
aggagaacac gagagtgcct tttcatttta aaaatgtttg gaaatatgta caacttcgat      420
acagtttcag ggtgctccag acacccatgg acctg                                455


<210> 1197
<211> 444
<212> DNA
<213> Homo sapien


<400> 1197
cctggatgtg gctcttcgca ctgaaggcca agtagtagat cacaaggccg atcgccgcag      60
ccagcacctc agtggacacc cagggcccgt tccaagtgcc ccgatggtcc acgctgactg     120
taaacagagg cgggatgatg gaaatgtcct cgttattcct ctgagccttc ctgaggaggc     180
tgtaggactc ctcgtcgaag aatctaacct cataggtgcc tgcgtgggcg ctcttgtggt     240
tcaggcttca ggacacctga taacgcccca catcctggcc tcgagtgaca gggaattgtt     300
ttccaccgac gtcagcatag agagccatgt tctggaccct gttcttgcat gtcaggagga     360
tctccacaat gaagacggtc tcagtggaaa tgacagcgtc agaagtggtg tagtaggaag     420
gggtgatctg gggctccagg cagg                                            444


<210> 1198
<211> 450
<212> DNA
<213> Homo sapien


<400> 1198
ccatgggtgt ctggagcacc ctgaaactgt atcaaagttg tacatatttc caaacatttt      60
taaaatgaaa aggcactctc gtgttctcct cactctgtgc actttgctgt tggtgtgaca     120
aggcatttaa agatgtttct ggcattttct ttttatttgt aaggtggtgg taactatggt     180
tattggctag aaatcctgag ttttcaactg tatatatcta tagtttgtaa aaagaacaaa     240
acaaccgaga caaacccttg atgctccttg ctcggcgttg aggctgtggg gaagatgcct     300
tttgggagag gctgtagctc agggcgtgca ctgtgaggct ggacctgttg actccgcagg     360
gggcatccat ttagcttcag gttgtcttgt ttctgtatat agtgacatag cattctgctg     420
```

```
ccatcttagc tgtggacaaa gggggtcag                                      450
```

<210> 1199
<211> 294
<212> DNA
<213> Homo sapien

<400> 1199
```
agtcacagtt gcacctattc aaaactagct ttaaagtgag ctatttttaa acttcataaa     60
aatattcatg attttattag tttgaatatt tctacaagat tcgggtgggc ttttcctta     120
ggtgaaaaca gctatccact cctgtggcct tataactcag gaaatgctgg ggatgcaaac    180
gtgcaaaagg caggggaag ctgcccaggc tgagactgga gcagctagga gtgtgcttgg     240
ggaacgggag ctgagatccc ggagcagaaa tggtcagccg tgctctggag cagg          294
```

<210> 1200
<211> 258
<212> DNA
<213> Homo sapien

<400> 1200
```
agctacctaa gaacagctaa aagagcacac ccgtctatgt agcaaaatag tgggaagatt     60
tataggtaga ggcgacaaac ctaccgagcc tggtgatagc tggttgtcca agatagaatc    120
ttagttcaac tttaaatttg cccacagaac cctctaaatc cccttgtaaa tttaactgtt    180
agtccaaaga ggaacagctc tttggacact aggaaaaaac cttgtagaga gagtaaaaaa    240
tttaacaccc atagtagg                                                  258
```

<210> 1201
<211> 403
<212> DNA
<213> Homo sapien

<400> 1201
```
ctgagctgct gtctgctttg gaaaaccgtt cctgccgctg ccgatggatg gaaatgcaat     60
ggatttcagc ttcttatcat cagccagggc caagcagttt ttcactgtct tttccagaag    120
ttcttcacac ttgtctgcac cccaaactgg actattacag tggatcacaa acttggcagg    180
caggccatgg cctgcgctga cagcagctcc agctacttcc aagggcccgt tcttttttccg   240
gagttccagg acagcttcca caaactcctt gccacctttc ttctccagcg tgtttcctag   300
gtcatcttta aggtcaatgt cagcattggt aggattgatt atggcctcca cctcaaagcc   360
ggctaaatta ctgatttcac tgtgaataag gttcggcttc tgg                      403
```

<210> 1202
<211> 325
<212> DNA
<213> Homo sapien

<400> 1202
```
ctgaacctgc gggagtcggc caccatcacg tgcctggtga cgggcttctc tcccgcggac     60
gtcttcgtgc agtggatgca gaggggcag cccttgtccc cggagaagta tgtgaccagc     120
gccccaatgc ctgagcccca ggccccaggc cggtacttcg cccacagcat cctgaccgtg    180
tccgaagagg aatggaacac gggggagacc tacacctgcg tggtggccct tgaggccctg    240
cccaacaggg tcaccgagag gaccgtggac aagtccaccg gtaaacccac cctgtacaac    300
gtgtccctgg tcatgtccga cacag                                          325
```

<210> 1203

<211> 518
<212> DNA
<213> Homo sapien

<400> 1203
ctcaaccaca gtctgacacc agagcccact tccatcctct ctggtgtgag gcacagcgag   60
ggcagcatct ggaggagctc tgcagcctcc acacctacca cgacctccca gggctgggct   120
caggaaaaac cagccactgc tttacaggac aggggggttga agctgagccc cgcctcacac   180
ccaccccat gcactcaaag attggatttt acagctactt gcaattcaaa attcagaaga   240
ataaaaaatg ggaacataca gaactctaaa agatagacat cagaaattgt taagttaagc   300
tttttcaaaa aaccagcaat tccccagcgt agtcaagggt ggacactgca cgctctggca   360
tgatgggatg gcgaccgggc aagctttctt cctcgagatg ctctgctgct tgagagctat   420
tgctttgtta agatataaaa aggggtttct ttttgtcttt ctgtaaggtg gacttccagc   480
ttttgattga aagtcctagg gtgattctat ttctgctg   518

<210> 1204
<211> 352
<212> DNA
<213> Homo sapien

<400> 1204
ggggaaagga ggtctcactg agcaccgtcc cagcatccgg acaccacagc ggcccttcgc   60
tccacgcaga aaaccacact tctcaaacct tcactcaaca cttccttccc caaagccaga   120
agatgcacaa ggaggaacat gaggtggctg tgctgggggc acccccccagc accatccttc   180
caaggtccac cgtgatcaac atccacagcg agacctccgt gcccgaccat gtcgtctggt   240
ccctgttcaa caccctcttc ttgaactggt gctgtctggg cttcatagca ttcgcctact   300
ccgtgaagtc tagggacagg aagatggttg gcgacgtgac cggggcccag ga   352

<210> 1205
<211> 250
<212> DNA
<213> Homo sapien

<400> 1205
ctgttcaact tccaactcta aataggcacc attaaacaaa aaaccccagt attttaaatt   60
tctccagcac acattccagg atcaatgctc tgaactgtaa tcagctagta attcataacg   120
ggaatacagc cttagaatgg aagctatatt gcttccctgc cccctttctc ttacaattgg   180
agagtgtagg tattaaggga tacaaagtca gaggaagaat aattaaaaag aaaaatgccc   240
aaagctgcag   250

<210> 1206
<211> 275
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(275)
<223> n = A,T,C or G

<400> 1206
ctgctctcgn ngnctcactg gatggaccag cacttccgca cgacgcccct ggagaagaac   60
gccccgtct tgctggccct gctgggtatc tggtacatca actgctttgg gtgtgagaca   120
cacgccatgc tgccctatga ccagtacctg caccgctttg ctgcgtactt ccagcagggc   180

```
gacatggagt ccaatgggaa atacatcacc aaatctggaa cccgtgtgga ccaccnnaca        240
ggccccattg tgtggggga gccagggacc aatgg                                     275


<210> 1207
<211> 182
<212> DNA
<213> Homo sapien


<400> 1207
ccatctcctg ctcgaagtcc agggcgacgt agcacagctt ctccttgatg tcgcgcacga         60
tttcccgctc ggccgtggtg gtgaagctgt agcctcgctc agtgaggatc ttcatgaggt        120
agtcggtcag gtcccggcca gccaggtcca gacgcaggat ggcgtggggg agggcgtagc        180
cc                                                                        182


<210> 1208
<211> 260
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(260)
<223> n = A,T,C or G


<400> 1208
gctggttatg aactcctgac ctcaagtgat ctgccctcct cagcctccca aagtgctggg         60
attataggca tgagccactg gaatttttct tttttttttt ctttcttttt tttttttttt        120
ttaaattgan acaaggtctg gctctatcgc ccangctgga gtgcagnggc accatntcgg        180
ctcactgcaa cctctgcctg ctgggctcga gccatcctcc cacctcagcc tcccaagtan        240
ttgggactag aggtatgcac                                                     260


<210> 1209
<211> 487
<212> DNA
<213> Homo sapien


<400> 1209
aaacccactc caccttacta ccagacaacc ttagccaaac catttaccca aataaagtat         60
aggcgataga aattgaaacc tggcgcaata gatatagtac cgcaagggaa agatgaaaaa        120
ctataaccaa gcataatata gcaaggacta atccctatac cttctgcata atgaattaac        180
tagaaataac tttgcaagga gagccaaagc taagaccccc gaaaccagac gagctaccta        240
agaacagcta aaagagcaca cccgtctatg tagcaaaata gtgggaagat ttataggtag        300
aggcgacaaa cctaccgagc ctggtgatag ctggttgtcc aagatagaat cttagttcaa        360
ctttaaattt gcccacagaa ccctctaaat ccccttgtaa atttaactgt tagtccaaag        420
aggaacagct ctttggacac taggaaaaaa ccttgtagag agagtaaaaa atttaacacc        480
catagta                                                                   487


<210> 1210
<211> 216
<212> DNA
<213> Homo sapien


<400> 1210
ccactcagct cagcgggcga cgtgcccta caagttggca gaagtggctg ccactgctgg          60
```

```
gtttgtgtaa gagaggctgc tgccaccatt acctgcagaa accttctcat aggggctacg      120
atcggtactg ctagggggca catagcgccc atggatgtgg taggtggggt actcgctcat      180
aggatggtag gtatcccggg ctggaaagat gtccag                                216
```

<210> 1211
<211> 443
<212> DNA
<213> Homo sapien

<400> 1211
```
ccaaggtcag aggctgatgc aacaggccct cttctcccca gggccaggct cctgtccagc       60
ctgggcactg cccagagtga tggcattggt ccggatgctg ttctgtctct gcttggacac      120
cttcgcaaag atttctttca ggacagtctc aaaggctagc tcaacattgg tagagtccag      180
ggctgaggtc tccaggaaga gcagtccatt gttttcagcg aacattcggg cctcctcagt      240
gggcacttcc cgggcctggc tgaggtcact tttgttaccc acgagcatga cgacgatcgt      300
ggcttcagca tggtcataga gctccttcag ccatcgctcc accacagcat aggtctggtg      360
cttggttagg tcaaacacca ggagggcccc cactgcacca cgatagtacg ccgaggtgat      420
ggctcggtac cgctccaggc cag                                              443
```

<210> 1212
<211> 526
<212> DNA
<213> Homo sapien

<400> 1212
```
actgaaaccc gagtaaatgc tcaggctgct gcatatgaat acatggctgc atacatagaa       60
aatgcgaaac aggttggccg ccttgaaaat gcaatcgggt ggtatcatag ccaccctggc      120
tatggctgct ggctttctgg gattgatgtt agtactcaga tgctcaatca gcagttccag      180
gaaccatttg tagcagtggt gattgatcca acaagaacaa tatccgcagg gaaagtgaat      240
cttggcgcct ttaggacata cccaaagggc tacaaacctc ctgatgaagg accttctgag      300
taccagacta ttccacttaa taaaatagaa gattttggtg tacactgcaa acaatattat      360
gccttagaag tctcatattt caaatcctct ttggatcgca aattgcttga gctgttgtgg      420
aataaatact gggtgaatac gttgagttct tctagcttgc ttactaatgc agactatacc      480
actggtcagg tctttgattt gtctgaaaag ttagagcagt cagaag                     526
```

<210> 1213
<211> 359
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(359)
<223> n = A,T,C or G

<400> 1213
```
ccagccattg cctgncattt ggtagtatag tatgattctc accattattt gtcatggagg       60
cagacataca ccagaaatgg gggagaaaca gtacatatct ttctgtcttt agtttattgt      120
gtgctggtct aagcaagctg agatcatttg caatggaaaa cacgtaactt gtttaaaagt      180
ttttctggta gctttagctt tatgctaaaa aaaataatga cattgggtat ctatttcttt      240
ctaagactac attantanga aaataagtct tttcatgctt atgatttagc tgttttgtgg      300
taattgcttt ttaaaggaag nnattaatat cataagttat tattaatatt gtgaacnca      359
```

<210> 1214

<211> 428
<212> DNA
<213> Homo sapien

<400> 1214
ccaagcttga ggcagcccta ggtgaggcca agaagcaact tcaggatgag atgctgcggc   60
gggtggatgc tgagaacagg ctgcagacca tgaaggagga actggacttc cagaagaaca   120
tctacagtga ggagctgcgt gagaccaagc gccgtcatga gacccgactg gtggagattg   180
acaatgggaa gcagcgtgag tttgagagcc ggctggcgga tgcgctgcag gaactgcggg   240
cccagcatga ggaccaggtg gagcagtata agaaggagct ggagaagact tattctgcca   300
agctggacaa tgccaggcag tctgctgaga ggaacagcaa cctggtgggg gctgcccacg   360
aggagctgca gcagtcgcgc atccgcatcg acagcctctc tgcccagctc agccagctcc   420
agaagcag   428

<210> 1215
<211> 414
<212> DNA
<213> Homo sapien

<400> 1215
ctgaagcact cttcagagac tacgtccaca gacactgatg ctgaggcctt tcttgtaagt   60
gaagaaaaag gaatgcagca aagaagagtt cgacattgga gtccttagtt ccatcaggat   120
cccattcgca gcctttagca tcatgtagaa gcaaactgca cctatggctg agataggtgc   180
aatgacctac aagattttgt gttttctagc tgtccaggaa aagccatctt cagtcttgct   240
gacagtcaaa gagcaagtga aaccatttcc agcctaaact acataaaagc agccgaacca   300
atgattaaag acctctaagg ctccataatc atcattaaat atgcccaaac tcattgtgac   360
ttttatttt atatacagga ttaaaatcaa cattaaatca tcttatttac atgg   414

<210> 1216
<211> 162
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(162)
<223> n = A,T,C or G

<400> 1216
cctggccgca gggtcccccg gtattgctgt tgctacgagg ttggggggca gcgattgtcc   60
tgtgggagcc accgttctcc tgggtcgggg accctcactt cttctggggt gtgctcannt   120
tctgcatgcc ccggatcttg tccagcangc cagaaatgaa gg   162

<210> 1217
<211> 392
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

<400> 1217

```
ctgaagtaga ggctggaact gaagctgaga ctgaggctga ggctgaaact ggagctaagg        60
gtgaggctgg aactggagct gaggttgagg ccagaactgg agctaaagtt gaggctggaa       120
ccggagctga ggttgaggct ggaactggag ttaaggttgc tggaagtgga gctgaggttg       180
aggctggaac tgaagctgag gttgaaggtg gaagtggagc cgaagctaga ggtggaactg       240
aggctgaaga ctgtgcttgc tggatccctg tagcctgttt tttggcaaat cttggaggaa       300
gcttanaagt ctggcttctt ccttttcat ttgcattctt tttgttccag accttaaaaa        360
attaacgggg accattttg tcaataatgc ag                                      392
```

<210> 1218
<211> 526
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(526)
<223> n = A,T,C or G

```
<400> 1218
ctgagctttc agcagataaa tcacagcaga aatagaatca ccctaggact ttcaatcaaa        60
agctggaagt ccaccttaca gaaagacaaa aagaaacccc tttttatatc ttaacaaagc       120
aatagctctc aagcagcaga gcatctcgag gaagaaagct tgcccggtcg ccatcccatc       180
atgccagagc gtgcagtgtc caccccttgac tacgctgggg aattgctgat tttttgaaaa      240
agcttaactt aacaatttct gatgtctatc ctttagagtt ctgtatgttc ccattttta        300
ttcttctgaa ttttgaattg caagtagctg taaaatccaa tctttgagtg catggggggtg      360
ggtgtgaggc ggggctcanc ttcaaccccc tgtcctgtaa agcagtggct ggttttttcct      420
gagcccagcc ctgggaggtc gtggtangtg tggaggctgc agagctcctn cagatgctgc       480
cctcgctgtg cctcacacca nagaggatgg aagtgggctc tggtgt                       526
```

<210> 1219
<211> 382
<212> DNA
<213> Homo sapien

```
<400> 1219
ctggccggcg gtgcagatct ggagtccagc ctcagggatg cgctactttc cattctctgc        60
attgaacatt cgttctgtca gcatccgctc cagcttcact gcatcagcgg caaacttgcg       120
gatcccgtca gagagcttct ccacagccat ctggtcctcg ttgtgcaacc aacggaaaga       180
cttctcatcc aggtggattt tttccaggtc actggcttgg ccgccttgg ctgagagcac        240
aggcaccagc ttggcgttgt cctgcagcag ctctcccagg agcttgggtg agatggtgag       300
gaagtcacag ccggccagtg ctttgatctc gcccgtgttg cggaaggagg cgcccatgac       360
aatggttttg tagctaaact tc                                                 382
```

<210> 1220
<211> 127
<212> DNA
<213> Homo sapien

```
<400> 1220
tcgacctcct tgaagcagac caagtatagc aagcctctaa aaggactact gagaaacaga        60
atcagaaact ctagaactct agttagggcc cttcagcagg gctgcagagc ctccctggat       120
acccagg                                                                  127
```

<210> 1221

<211> 304
<212> DNA
<213> Homo sapien

<400> 1221
```
ccaccccgga gatgacacga ggctcacatg actctagaca cttggtggaa agtgaggcga      60
gaaaaacaat gacttgggcc aattacacga ctgcaaagct agagctgcca acagggctcc     120
agggagcttg gcttctgtag aagttctaag gaagcggtac gaactccacg gcggtggggc     180
gctaactagc agggacccct gcaagtgttg gtcggggggcc tcgggctgcc tgagctgaca     240
cgaggggagg ggtctgtgta gccaacaggt gaccgaaggg cttgcctgcc cacagcttac     300
ttgg                                                                  304
```

<210> 1222
<211> 309
<212> DNA
<213> Homo sapien

<400> 1222
```
ctgtcgcact cgtagctgca actcactcaa cttgtcttta gcagcaattt ctgcatagtc      60
attggcatgt tcacctacct ggatgtccgg gtgaactctc agcatgcctc cagcaaagag     120
ggagaacttg gtggaattgg agtgaagaca gatctggtgc tcaccagggg tatgggaagt     180
gaaagtgaac ctgccctcgg agccatactg ccgggccagg atgaccttgt cctctgggtc     240
ctccacctcc acaaacatgc caagccccgg ggtggccggc tggtactcct cccgctgctt     300
gtcatacag                                                             309
```

<210> 1223
<211> 390
<212> DNA
<213> Homo sapien

<400> 1223
```
cctggcctgg gagccctgtg cctactagaa gcacattaga ttatccattc actgacagaa      60
caggtctttt ttgggtcctt cttctccacc acgatatact tgcagtcctc cttcttgaag     120
attctttggc agttgtcttt gtcataaccc acaggtgtag aaacaagggt gcaacatgaa     180
atctctgttt cgtagcaagt gcatgtctca cagttgtcag tctgccactc cgagtttatt     240
ggtgtttgtt tcctttgaga tccatgcatt tcctggttga atctcctgga actccctcat     300
taggtatgaa atagcatgat gcattgcata aagtcacgaa ggtggcaaag atcacaacgc     360
tgcccaggag aacattcatt gtgataagca                                      390
```

<210> 1224
<211> 407
<212> DNA
<213> Homo sapien

<400> 1224
```
ccttatgact acaacggccc acgagaaaaa tatggaatcg ttgattacat gatcgagcag      60
tccgggcctc cctccaagga gattctgacc ctgaagcagg tccaggagtt cctgaaggat     120
ggagacgatg tcatcatcat cggggtcttt aagggggaga gtgacccagc ctaccagcaa     180
taccaggatg ccgctaacaa cctgagagaa gattacaaat ttcaccacac tttcagcaca     240
gaaatagcaa agttcttgaa agtctcccag gggcagttgg ttgtaatgca gcctgagaaa     300
ttccagtcca agtatgagcc ccggagccac atgatggacg tccagggctc cacccaggac     360
tcggccatca aggacttcgt gctgaagtac gccctgcccc tggttgg                   407
```

<210> 1225

<211> 250
<212> DNA
<213> Homo sapien

<400> 1225
ctgcagcttt gggcattttt cttttttaatt attcttcctc tgactttgta tcccttaata   60
cctacactct ccaattgtaa gagaaagggg gcaggggaagc aatatagctt ccattctaag   120
gctgtattcc cgttatgaat tactagctga ttacagttca gagcattgat cctggaatgt   180
gtgctggaga aatttaaaat actggggttt tttgtttaat ggtgcctgtt tagagttgga   240
agttgaacag   250

<210> 1226
<211> 444
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(444)
<223> n = A,T,C or G

<400> 1226
cctttaggct gttgctctgg gcaggggggtg ggggtgcggg ggcttacagt gggggccctt   60
agttggcaca ggttcggaag ggccccaggc agacatgaat tctcctgaga cttgaggtag   120
gttgcttcag ccagcccggg cggagaagaa gggcagagag cgaacatagg agtccagtcg   180
ggagcgaaag agctcacttt gcacagtttg gcccagcggg cacagggggat tcttcaccac   240
cagctccaca tacagcgcac tgtagatgtg gtgcagcaca tctcggatgg gtcccacgcc   300
caagtcagta ttcatgacaa ctttgatccc agtgggcgtc tcgtagtaat ggagtttgta   360
acggctagtt tggaaggcca ggaagccatc cttcatgtct agcggggaca tcttgctgac   420
aaacgancgg atagagaaga gcat   444

<210> 1227
<211> 491
<212> DNA
<213> Homo sapien

<400> 1227
gttagcctta catgttgtgt agacttactt taagtttgca cccttgaaat gtgtcatatc   60
aatttctgga ttcataatag caagattagc aaaggataaa tgccgaaggt cacttcattc   120
tggacacagt tggatcaata ctgattaagt agaaaatcca agctttgctt gagaactttt   180
gtaacgtgga gagtaaaaag tatcggtttt attctttgct gatgtccttt ctgcttgaaa   240
taacagtcac catacagcta aaggagagga gtttcttcc ttctaagtag gcagaaatgg   300
tatcattatg ttgccgctct ccaatctccc agagctcgct ctctagagaa tcaccttctt   360
tcgcttttttt tttttttttg aggtagagtc tcactatgtt gcccagacta gccttgaact   420
cctgggctca agtgattctc cctcctcagc ctcccgagta gctggaacga actatagttg   480
caccactgca g   491

<210> 1228
<211> 279
<212> DNA
<213> Homo sapien

<400> 1228
ctgggcggat ctgatcaact aggcaacatc atgtccggat atgagttcat caacaagttg   60

```
actggagaag atgtatttgg aatcaccgtt cctctaatta caagtacaac tggagcaaag      120
ctgggaaagt ctgctggcaa tgctgtttgg ctaaacagag ataagacatc tccatttgaa      180
ttgtatcaat tctttgtcag gcaaccggac gattcagtgg aaaggtacct gaagctgttc      240
actttcctac cccttccaga gattgatcat atcatgcag                             279
```

```
<210> 1229
<211> 199
<212> DNA
<213> Homo sapien
```

```
<400> 1229
cggccgaggt ccagtccaac ctgctcctca ttattgtata aatgagcaga atcaatatgg       60
cggaagccag cttcaattgc caatttggtg gcctctaaag ctttactttt aggaacctct      120
gcaggcgcat aggtgccaaa tcccaggaca ggcatgaagt gaccatcatt cagcttcaca      180
cactgatatt tcgaatcca                                                   199
```

```
<210> 1230
<211> 237
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(237)
<223> n = A,T,C or G
```

```
<400> 1230
ctgcattgnt gnggaattca caactactca ggctgggaaa atacagattg gttcaaagaa       60
accaaaaacc agagtgtccc tcttagctgc tgcagagaga ctgccagcaa ttgtaatggc      120
agcctggccc acccttccga cctctatgct gaggggtgtg aggctctagt agtgaagaag      180
ctacaagaaa tcatgatgca tgtgatctgg gccgcactgg catttgcagc tattcag        237
```

```
<210> 1231
<211> 277
<212> DNA
<213> Homo sapien
```

```
<400> 1231
ctggaggtgc ctcagaaggt gcattctgct tcctgcaggg gcttgaaaca ccaaggcact       60
ccagggatcc tggagtcaaa gcagcagccc cggttgttgc actccttggg ggtgacatgg      120
gggtagccgc agtccaccct gtccttggct ggcacggcac actggtttgc agacaggccc      180
acgtactcct cagcagagct ggaggacagc aaggccagga ccagccccag catgcagagc      240
gctctggcag ccatgaccac cgtgggctcc gggacgc                               277
```

```
<210> 1232
<211> 348
<212> DNA
<213> Homo sapien
```

```
<400> 1232
ctgcaacttt tttttttgc aattacagag tggtattcag ttaacagaac aacaattatt       60
tcgtataagc tgcatcagag acaactgaag atgaaaaaac taccatcccc atatataact      120
aatttgtgct gtgcaccaac aagaacctgc tttaaatttc catgccaatt tacaaccccc      180
atactgtacc aggcaaggtt agtggctatt gaaaataccc ccaggacagg gctatctaaa      240
```

```
gacacattcg gtagtgtgtt aactatacaa aaaaagacac tgtacagttt aaaaacaaat    300
cttacacagc cttacatttc aatttttttc tttaaaagga gtgagttg                348
```

<210> 1233
<211> 312
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(312)
<223> n = A,T,C or G

```
<400> 1233
ctgagcgtac ggccgcgttc atcccagccg cgggtgcccc cacgttgatg acagctacgt     60
tgcaattggt ctttgggatc tgatcatccg gcagcttgat ggcaagtcgc ttgtaggtgt    120
tcaggttgcc cgcaaagctc ctccctcgga gtcgaaccgn atnttgaaat ctcctctcgt    180
ccatcgcctt ctgcacatcc tgagtcatct gcacgcactc catcagcggc aggcgcacgg    240
ngtggttccc gttcagtgac acgacgcaag ctggggtgtc cggggtggcc tctagcaagg    300
cnatgactgc ct                                                        312
```

<210> 1234
<211> 151
<212> DNA
<213> Homo sapien

```
<400> 1234
ccggccgcgg gcataaaagg cgccaggtga gggcctcgcc gctcctcccg cgaatcgcag     60
cttctgagac cagggttgct ccgtccgtgc tccgcctcgc catgacttcc tacagctatc    120
gccagtcgtc ggccacgtcg tccttcggag g                                   151
```

<210> 1235
<211> 250
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(250)
<223> n = A,T,C or G

```
<400> 1235
ctgcaccttn gggcntnttt ctttttaatt attcttcctc tgactttgta tcccttaata     60
cctacactct ccaattgtaa gagaaagggg gcagggaagc aatatanctt ccattctaag    120
gctgtattcc cgttatgaat tactagctga ttacagttca nagcattgat cctggaatgt    180
gtgctggana aatttaaaat actggggttt tttgtttaat ggtgcctgtt tagagttgga    240
agttgaacag                                                           250
```

<210> 1236
<211> 154
<212> DNA
<213> Homo sapien

<400> 1236

```
ctgatcctca ctattgtggg caccatcgct ggcatcgtca ttctcagcat gataattgca      60
ttgattgtca cagcaagatc aaataacaaa acgaagcata ttgaagaaga gaacttgatt     120
gacgaagact ttcaaaatct aaaactgcgg tcga                                 154
```

<210> 1237
<211> 375
<212> DNA
<213> Homo sapien

<400> 1237
```
ccactggatc tttgggatta aagctctgtt ggatttgtac ctcagaggaa gatcaagtgg      60
ctgatccttt ggactctgta aagagcattc ttctagtcag agggtggaat ggcagcagca     120
actggaagaa aatgagtttt ttggtgccca cacccaagag cacacacatg ctgcactgtc     180
tcggaaagca gggccagcta gagccaccat gttcttcctt acctcagttt acctgcggcc     240
tgcgctgcac tgcagatgcc caccctgccc tgggtctggc cggcggaagc tctgtccaag     300
gtccacacac ctccaggttt acgccaacat ccttgtgccc tccccacctt ctcttccaac     360
gcattaggtg cattg                                                      375
```

<210> 1238
<211> 454
<212> DNA
<213> Homo sapien

<400> 1238
```
gtcaagatca agttcaatat catcgcctct ctctatgact acaaccccaa cctggcaacc      60
tacatgaagc cagagatgtg ggggaagtgc ctggactgca tcaatgagct gatggatatc     120
ctgtttgcaa atcccaacat ttttgttgga gagaatattc cggaagagag tgagaacctg     180
cacaacgctg accagccact gcgtgtccgt ggctgcatcc taactctggt ggaacgaatg     240
gatgaagaat ttaccaaaat aatgcaaaat actgaccctc actccaagag tacgtggagc     300
acttgaagga tgaggcccag gtgtgtgcca tcatcgagcg tgtgcagcgc tacctggagg     360
agaagggcac taccgaggag gtctgccgca tctacctgct gcgcatcctg cacacctact     420
acaagtttga ttacaaggcc catcagcgac agac                                 454
```

<210> 1239
<211> 483
<212> DNA
<213> Homo sapien

<400> 1239
```
ctgccaggct gaaaagaagc ctcagctccc acaccgccct cctcaccgcc cttcctcggg      60
agtcacttcc actggtggac cacgggcccc cagccctgtg tcggccttgt ctgtctcagc     120
tcaaccacag tctgacacca gagcccactt ccatcctctc tggtgtgagg cacagcgagg     180
gcagcatctg gaggagctct gcagcctcca cacctaccac gacctcccag ggctgggctc     240
aggaaaaacc agccactgct ttacaggaca gggggttgaa gctgagcccc gcctcacacc     300
cacccccatg cactcaaaga ttggatttta cagctacttg caattcaaaa ttcagaagaa     360
taaaaaatgg gaacatacag aactctaaaa gatagacatc agaaattgtt aagttaagct     420
ttttcaaaaa atcagcaatt ccccagcgta gtcaagggtg gacactgcac gctctggcat     480
gat                                                                   483
```

<210> 1240
<211> 358
<212> DNA
<213> Homo sapien

<400> 1240
```
cctttatgga tgaaagtacc cagtgcttcc agaaggtgtc agtacagctc ggaaagagaa        60
gcatgcaaca attagatccc tcaccagctc gaaaactgtt gaagcttcag ctacagaacc       120
cacctgccat acatggatct ggatctggat cttgtcagtg actttatgag agtttctgcc       180
acaaggtgcc caagaggaga ggaatgggaa gagtgcccca gcacgtggtg actgcgtgat       240
ttctgctcra tgcctttmts atamstgacc acactgasgg cgaattmcag cacactggcg       300
gccgttacta gtggatccga gctcggtacc aagcttggcg taatcatggt catagctg         358
```

<210> 1241
<211> 194
<212> DNA
<213> Homo sapien

<400> 1241
```
ccaaaggttc gtaatgccat ctctgcacca atctcctccc ccatagcaat aagggcaatc        60
cccagaacag ccactccctg atgtgctccc atgtcagcag gggcttcctt cttgtccttg       120
tctttctttt ccttcttgtc tttgtcttcc tccttctctt tggagtcaaa gtgttcgcta       180
caaatgtgga gcag                                                         194
```

<210> 1242
<211> 316
<212> DNA
<213> Homo sapien

<400> 1242
```
ccttgttctc actgccctct aagggaactt ggtcactcgg cacttttaag cctcagtttc        60
tccagttcaa taataaggac aagagctttt cccatgcatt ctctttcccc gggaaagttg       120
actgaggtga ccagtaatag aattgaaaag ggagagtgtc ttcagtgcaa tgtggcatcc       180
tggattgggt cttggaacaa aaacaggaca ttagtgggaa aattggaaat ctgaaaaaag       240
tctgaatttt agttaatata ccaatttcag tctcttggtt ttgacagatg taccatggtg       300
atgtaagatg ttgacc                                                       316
```

<210> 1243
<211> 275
<212> DNA
<213> Homo sapien

<400> 1243
```
aaaagggtga tgaaagtatt atgtataata ttataatggt aaatatgtga tatgaatttg        60
ttgaaatcaa cagaatatac agcataaagg gttaattcca attcacaaaa atataaataa       120
ataggagatt aggaattcca ggatagaatg cagacaatat agaaaatatc taatgtcatt       180
acaaatgtat gaaatcagaa gaggtgccaa gtgacctcag aaatagtgta gtcaataaaa       240
gaataaagaa agtgcacgtc agaactgtac cccag                                  275
```

<210> 1244
<211> 235
<212> DNA
<213> Homo sapien

<400> 1244
```
ctgctgcgct tggataacaa gtaattcaac gcacgcactt aacagaaatg ttaaactata        60
acaagcacca tttgaggatt aacaggaaca ttttttttgaa gatttcaaac gaactcgact       120
ttcagtataa ttgtacctaa agtatttata aacagctcat cggagcctct atttgtcata       180
gacttttgag ttgattgttg ggaccacata ataggaccat ttttttttttg tcttt          235
```

```
<210> 1245
<211> 640
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(640)
<223> n = A,T,C or G

<400> 1245
ctgatgatgt tccacaaaag agcaaaacat acacaatctg gttccactct acagaaatcc      60
tggaactgga ctacaaaggg aatagacagg gtgtggcagg aggggggttcc tcacggttgg     120
agtgcgaggt tagggacagg aatagaaggy aggtaataaa cattcatgtg gtattaacag     180
ggcagatgtg tcaatrtatt tscaagttta gcataatata ggtataaaaa ttaaataaaa     240
atagtttaka tgtgtgtgta tatatgggtt aatacacaac acatacctcc tagagtcatt     300
acctgagagg ttctacaaga aaagacagca aattaacaaa aaatacaccc agaatcaaga     360
tttgagtttt ggttcctttc atagcagaat ggtatgcaac atttcttgga aaaatggcta     420
atcctagggc ttggaaagag aatataggag taaagtctac aatttctcat ggtacccaga     480
aaataagaaa gggttccaaa atgaagaatc gctccttttg caaaccttat ggtaacaaat     540
ataatattta taaaaagtga attangtaat atgttaatgg agaaataaac atcattatga     600
aatgctatct taacaaaaaa targagaaaa twttagtttt                          640

<210> 1246
<211> 509
<212> DNA
<213> Homo sapien

<400> 1246
aaactttcaa agaatcactt ttaggcttac aaaaataaat atttgtcaaa atgttcaata      60
aatattacat aaaactagca gcaaaaagta tctagaaatc tgtcgtgtgc aaatagtttt     120
cttcccaact atcattccca tggtcccaaa taaatttttag aatctagtcc catcccttc     180
ctagacaagc tgcgttcaac aatctccaag agacaaagta agattggaag tttaaggaca     240
cgcacacaag acatatatat aaaattctct gaatgtgcaa taaaagaagt actttgtaaa     300
aagttatggg caaaatgtac aagggcctaa acctagacta attgaaatag caccataaca     360
aatgacctca atactgtcaa gtgcacctac ttaataaaag ttttagaaca aggcacaata     420
cacttgaaaa tctattgcac tttaggaaat ttttgccgtc ttcctatgcc actgtaaaaa     480
gatggagcgt tttgatcacc gcattctgg                                       509

<210> 1247
<211> 310
<212> DNA
<213> Homo sapien

<400> 1247
catatgtgga actattcttg gaaagtctac aaagtgaaat ctatcgagtt atttctcatt      60
tgcaaagtga tcctttgagt catttctcat aatctataat ctgaatgtta atactgatat     120
ttttaaaagc cctacatccc aacagaccag gccatctaga tatttcagcg tggtgtctca     180
ggatgagtaa acaaacagct aaaaatatat gacttatgta aactagagtt acaggagtta     240
ctagcttttc tgaaagggat atattctaag tattttttct taaaaaaaaa aaaarggggg     300
ggggggggtt                                                           310

<210> 1248
```

```
<211> 640
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(640)
<223> n = A,T,C or G

<400> 1248
aaagatataa aactatggag aaaactgcta aagggtatcc ctgaccttta tgatgatgca      60
gctattttcg aggccaaaaa atcattttac tgggcaagaa aaacatctca ttcctttgtc     120
gtgaatatcc ttgctcaggc tctttatgaa ttattttctg ccacagatga ttccctgcat     180
caactaagaa aagcctgttt tctttatttc aaacttggtg gcgaatgtgt tgcgggtcct     240
gttgggctgc tttctgtatt gtctcctaac cctctagttt taattggaca cttctttgct     300
gttgcaatct atgccgtgta tttttgcttt aagtcagaac cttggattac aaaacctcga     360
gcccttctca gtagtggtgc tgtattgtac aaagcgtgtt ctgtaatatt tcctctaatt     420
tactcagaaa tgaagtatat ggttcattaa gcttaaaggg gaaccatttg tgaatgaata     480
tttggaactt accaagtcct aagagacttt tggaagagga tatatatagc atagtaccat     540
accacttata aagtggaaac tcttggacca agatttggat taatttgttt ttgaagtttt     600
tggnatataa atatgtaaat acatgcttta attgcaattt                           640


<210> 1249
<211> 1108
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(1108)
<223> n = A,T,C or G

<400> 1249
caaaataaat ttcaattcaa tgaaaagtaa ataacttagg gatctataaa tgacactgca      60
atgtatcttg ttccattttt aacaggaagt ccttcatgca aatgtgtgag tctcccagga     120
tgcatgaagc tccagccttt tcgtggtgac tcaatagagc aattgtacct tacaaatktg     180
caaccacctc cctgaaagtc ttctcccacg ttattaagtg caatgyttat ggtaaatgta     240
gaagcatcat gatgaggacg aagagaacgc tgtcgttcag gggagtattt tactacaaaa     300
ttcagtagtg caaatccctt cgtataatag cctgcaaaga ccttcagtgt aactggtgca     360
atgaactccc ggataaaatg aagccataca ttctccagat caacttgctt catgtggata     420
tcatcagttg ggacattttc ataaccacca gatatacggc tatcatgatg ttttttcccca     480
gaccatttgc cgtaatgttc catttcttct accaattcat cacaggnctt tttcagaaaa     540
tatggggaac cmaaaagaca tctggacagg gctgttcaam ctatattttc agtgaaaatc     600
tttgaataat ccmcggttta tatactttc cttccagtcc acaggatttt caaaaatctg     660
ccagaggtca ttgttataat gggaagtatt gtaattagca gtggataata gccttccaaa     720
ttcatgtcta ttagaaatgt acataaatac accctttggg gggctgagca tttggaatgt     780
ttccggagta ggggagtctt tttccctttg taaagtcatt tctctagcat ttcggcaaag     840
agccatatca ggatccagtt tatcacgaac aaaatagctc ctttcattca tctctgatcg     900
gagtgtcttt cctttaatta agtacacatt agccatatat gggacattcc atactcctac     960
tctattccct tgaacaatat ccacataatc ttcagatcgt gcatagtatc catcaggact    1020
caatgctccc cagaaattgg accacagctt tccatgacga gttacaagag gagcaatgat    1080
ctttctgttt tgttcaatca aaatttt                                       1108


<210> 1250
```

<211> 567
<212> DNA
<213> Homo sapien

<400> 1250
```
ctgaatattg aactggaagc agcacatcat taggctttat gactgggtgt gtgttgtgtg      60
tatgtaatac ataatgttta ttgtacagat gtgtggggtt tgtgttttat gatacattac     120
agccaaatta tttgttggtt tatggacata ctgccctttc attttttttc ttttccagtg     180
tttaggtgat ctcaaattag gaaatgcatt taaccatgta aagatgagt gctaaagtaa       240
gctttttagg gccctttgcc aataggtagt cattcaatct ggtattgatc ttttcacaaa     300
taacagaact gagaaacttt tatatataac tgatgatcac ataaaacaga tttgcataaa     360
attaccatga ttgctttatg tttatattta acttgtattt ttgtacaaac aagattgtgt     420
aagatatatt tgaagtttca gtgatttaac agtctttcca acttttcatg atttttatga     480
gcacagactt tcaagaaaat acttgaaaat aaattacatt gcctttgtc cattaatcag       540
caaataaaac atggccttaa ctaaaaa                                          567
```

<210> 1251
<211> 655
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(655)
<223> n = A,T,C or G

<400> 1251
```
gaaagaaacc aatttaatgc caccaaacat aagcctgcta tacctgggaa acaaaaaatc      60
tcacacctaa attctagcag agtaaacgat tccaactaga atgtactgta tatccatatg     120
gcacatttat gactttgtaa tatgtaattc ataatacagg nttaaggtgt gtggnatgga     180
gctaggaaaa ccnaaggagn aggaaattat nnaaaagaac tgnaggtnaa gtataaagtc     240
atatgcctga tttcctcaaa ccttttggtt ttcctcatgg cttctggctt tatattttta     300
tcacaaacca agatctaaca gggntctttc tagaggatta ttagataagt aacacttgat     360
cattaagcac ggatcatgcc actcattcat gggtgntcta tgttccatga actctaatag     420
cccaacttat acatggcact ccaaggggat gcttcagcca gaaagtaaag ggctgaaaaa     480
gtagaacaat acaaaagccc tcgtgtgggg ggaactgngg gctcactctt acttggcctt     540
cattcnaaac aggttgggnc tttcntgcga ngatctctca gggnggtaaa aactttntgg     600
ntttcaacan aanaggtttg gntgaatgat tactcggcng acacctaagg gatcc           655
```

<210> 1252
<211> 672
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(672)
<223> n = A,T,C or G

<400> 1252
```
aaantgcaaa aacccagaag accaataatt ctgaaacttg gcatgagtgt gcccagtcag      60
cagcttgcaa agagaggatg tgtcagttac tacaattgct gtactccttt agctgagtcc     120
ttcaactttc tccttcttgc cagtaaatac tacgttgtaa ttcatatgac tgagatctta     180
gtatcacagg atttttagct cccatgcctc cttcaaaatt gtttacatgg atttgtttct     240
```

```
attctctgta ggccatattc caaacacatt cacttctaaa tccaacacaa gtgaaggacc      300
agccaggatg aaacacttca gcaatcattt tgttaaaaat aacatcctgg tcatcaagct      360
aagcataagc acctcttgta taacaattca tcttaaaagc ttaaagtaca ataataaaaa      420
taactgcctg aaaactggaa atgaaataca acagaaaaac tgaagcatta gtaatttttg      480
caagtaaccc aggtacagta catttgattt catagagggt gttttctgat gtttaaggag      540
agggtagaag gggtaggaaa acttggcaag gaagatggaa acagcacaac cagttatttt      600
gcttttaata aagtaaatgt aatgacagga gtagggaggt gacaaacaca tcnatatata      660
tttttcttat gg                                                          672
```

```
<210> 1253
<211> 644
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(644)
<223> n = A,T,C or G

<400> 1253
ccaaatattt gttagaaact tctggtaact tagatggtct ggaatacaag ttacatgatt       60
ttggctacag aggagtctct tcccaagaga ctgctggcat aggagcatct gctcacttgg      120
ttaacttcaa aggaacagat acagtagcag gacttgctct aattaaaaaa tattatggaa      180
cgaaagatcc tgttccaggc tattctgttc cagcagcaga acacagtacc ataacagctt      240
gggggaaaga ccatgaaaaa gatgcttttg aacatattgt aacacagttt tcatcagtgc      300
ctgtatctgt ggtcagcgat agctatgaca tttataatgc gtgtgagaaa tatggggtga      360
agatctaaga catttaatag tatcgagaag tacacagaca ccactaataa tcagacctga      420
ttctggaaac cctcttgaca ctgtgttaaa ggttttggag attttaggta agaagtttcc      480
tgttactgag aactcaaagg gttacaagtt gctgcccacc ttatcttaga gttattcaag      540
gggatggagt agatattaat accttacaaa gagattgnag anggcatgaa acaaaaaatg      600
yggactattg aaaatattgc cttcgttctg gcggaggttt gctc                      644
```

```
<210> 1254
<211> 438
<212> DNA
<213> Homo sapien

<400> 1254
aaagggcatt tgaggggagg attattgcta tgaatgaaaa aaatatttta gcttagacta       60
agctacctgc cttcaaaata gtttagggac caccaccata ttttattttg tttttatttt      120
tgaacatttt tctaatgatt tggagagaaa actatttaca aaaattccac atatcagtga      180
tacaatttct tgctgtcacc aatttttat aatagcagag tggcctgttc taagaaggcc       240
atatttttta agttatcttt cagggtaaca tggaaatact ataagttgg atgtcaaact       300
ttaatatgtt ttcagtgttc tctaattttt tggaattttt gtagacttta cacctggaaa      360
aaaagatttg taaaatcacc ggaacaattg tgtgctttat tttataggta gtggttatta      420
gtattacatc cccatttt                                                    438
```

```
<210> 1255
<211> 519
<212> DNA
<213> Homo sapien

<400> 1255
caagcacagg ggagtttata gttctgatgt ctttgacatt ttccctggaa cataccaaac       60
```

```
cctagaaatg tttccaagaa cacctggaat ttggttactc cactgccatg tgaccgacca        120
cattcatgct ggaatggaaa ccacttacac cgttctacaa aatgaagcat cttctgagac        180
tcacaggaga atatggaatg tgatctaccc aatcacagtc agtgtgatta ttttattcca        240
aatatctacc aaggaatgac caggagaata agatcctccg atgttcgcaa tggtgtggtg        300
tcaggaggct gcctcttaga caatctccag atgtactgtg atgtgagttt gaaaaagagt        360
tcctgaagta ccacatctgg gagacatgcc actagctgag cttcccaaaa gtctaccaag        420
agctgaggaa ttgtatcttc atccttagca caaagcacct taaaaacagt aaaaggagcc        480
tctatattcc agataaatat agcactgata aagcgacag                               519
```

```
<210> 1256
<211> 178
<212> DNA
<213> Homo sapien
```

```
<400> 1256
ccatgcagga gttcatgatc ctcccagtcg gtgcagcaaa cttcagggaa gccatgcgca         60
ttggagcaga ggtttaccac aacctgaaga atgtcatcaa ggagaaatat gggaaagatg        120
ccaccaatgt ggggatgaa ggcgggtttg ctcccaacat cctggagaat aaagaagg          178
```

```
<210> 1257
<211> 255
<212> DNA
<213> Homo sapien
```

```
<400> 1257
gggtccactt gctgccccat cattgtatca ccttccttca atcttttggc tgccactctc         60
atgtagggat ccacggtgag gaacaaagct tcaagcagga cctctccatt ttttaagggt        120
gggagctcag atgtcttcaa ctcaaagtca ctattagtag gatagccaac aaagtgcttc        180
ttcagggtcc atgtcttagt acgaaccatc ctgaagctca ggagcccgaa ggttccactg        240
cctggggaag gcggc                                                        255
```

```
<210> 1258
<211> 630
<212> DNA
<213> Homo sapien
```

```
<400> 1258
aaaactaaaa gcatcactgc tgaactccag ctcagtcttc ccattttata atgaggactc         60
tgaagtttat agaggtcaag gacttgtcca aagctttaga tatgtagtgt ctgtgccctt        120
ttcctctaag tttctcctag agaatgtggg ggctcaggaa cagagaaaat aaggtgcaaa        180
aagtagaaat gggtggtgtt tctcaaagtg tggtccatct gcatcctagt gactggggtg        240
cttgttaaaa tgcagattgc tgggccttat cccaatctga ccaaatcatc tcaggatcta        300
ccttttgaac aaacttgcct aggtcaaatt cactcttgtg gaagtttaag tacttcagaa        360
acaagacagc cacagaaggt gcacctgcta atttggtggc ttccagtgcc tcatctgtaa        420
cttctggtga atcctgaga tgtcttactt tacattgttt acatcccata acattccaac        480
atttagaaat tcactcgagc ttatttttct tacttgttta gcactaaatg aaaatagctc        540
cctgaagtta aggagtttat atacagtaat tcatgcaagt gtgtaaatta aacagatgac        600
tttcccccct aatatctaat gcacagcaag                                         630
```

```
<210> 1259
<211> 159
<212> DNA
<213> Homo sapien
```

```
<400> 1259
aaaatttaca gataaaggca gttcaatact gccactgaga agtacatctc ttaacatata      60
caactttcag gccacagttt tgaaggtctg aagtattaag ttggtttgat gaattagtcg     120
gttggcactt acgaacacat ttattgcctt gccatcttt                            159


<210> 1260
<211> 115
<212> DNA
<213> Homo sapien


<400> 1260
aaaaatacta taatttcaaa acttccaaat ttcaacagat gccagtgttc tctccttttt      60
tcatatggga aaatttcttt caaaattatt tgacgcttgg acaaaaattc cacag          115


<210> 1261
<211> 280
<212> DNA
<213> Homo sapien


<400> 1261
aaaatattgt ttatctttat ttattttgtg gtaatatagt aagttttttt agaagacaat      60
tttcataact tgataaatta tagttttgtt tgttagaaaa gttgctctta aaagatgtaa     120
atagatgaca aacgatgtaa ataattttgt aagaggcctc aaaatgttta tacgtggaaa     180
cacacctaca tgaaaagcag aaatcggttg ctgttttgct tcttttttccc tcttattttt    240
gtattgtggt catttcctat gcaaataatg gagcaaacag                           280


<210> 1262
<211> 144
<212> DNA
<213> Homo sapien


<400> 1262
aaaattatttg atgagttcca cttgtatcat ggcctacccg aggagaagag gagtttgtta     60
actgggccta tgtagtagcc tcatttacca tcgwttgtat tactgaccac atatgcttgt     120
cactgggaaa gaagcctgtt tcag                                            144


<210> 1263
<211> 487
<212> DNA
<213> Homo sapien


<400> 1263
aaacatcttg ataatttgtt gttgagagct gttcattcta aaatgtaatg aaattcagtc      60
tagttctgct gataaagatc atcagttttg aaaggttact gattttcctc ttccctctta     120
gtttttacc caatatatgg agaagagtaa tggtcaatct taacattttg ttttaattgt      180
ttaataaagc tgctgggcag tggtgcagca ttcctaccta gtgtcataaa agcaaaatac     240
ttacatagct ttcttaaaat ataggaatga cattacattt ttaggagaaa gtaagttgct     300
ttgcaccgcc tacttaattc ttttccatat attgtgatac aaacttttga atatggaatc     360
ttactatttg aatagaaatg tgtatgtata atatacatac atacataagc atatatgtgt     420
gtgtgtgtgt gtatatatat atatatgcat gctgtgaaac ttgactacac aacataaatc     480
actttt                                                               487


<210> 1264
<211> 250
```

```
<212> DNA
<213> Homo sapien

<400> 1264
ctgcttcaac agagtggcag caaccaagct ggagtccaag cccctgata  aaaggcagcc      60
aatccttctg tctgtcatca aacgtttctt tacagcatta ttaaaaagga tcctgaggtt     120
gttcttcaca gtttctatct caaaacctgg aaagagtttc tccacattgt catagagggc     180
gtgcaggggt tcatcccgac agtgatgata tttaaccatt ccacggatg  caactttgcc     240
atttggcttt                                                            250


<210> 1265
<211> 394
<212> DNA
<213> Homo sapien

<400> 1265
aaatatttgt tccaaccttt ttcgttggtg gcatttatgg ctttggagca ctgtcaggcc      60
catgttcatt accgtgagct cctgtgcatc tcctaatttc caaactagcc tggaaaacgc     120
ctccattgac catgattggt tcatggtcct gtgcatggaa catcatatgt tcagggagat     180
aaagaactct gatagtggca cctgggtaaa aagtacaatc cattatatct ggatatcaag     240
atcttttgca gttgaagaga ggtattgcca cagagaaat tataggagca gaagaaagtc      300
aatgaaagtc aatgatgaca ctccattagg aaccagaaag atggtattta tttatacata     360
taataggtgt aagagattag aggaagcctg tcac                                 394


<210> 1266
<211> 229
<212> DNA
<213> Homo sapien

<400> 1266
ccacagttgt atcatatagc atctctaaca tttcatctag gattatctag tatagatctt      60
actatatttg gggctatgtt gtatacaatg ttaacaagaa catatcttct ctgcatatat     120
gtgtgaatta taaagaaaag catgagaatg actctaagtt caacaaacat gggtgaatct     180
ctatgtgctc ccagtgtcct ggatgggctc cccagcaagc cattcctcc                 229


<210> 1267
<211> 722
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(722)
<223> n = A,T,C or G

<400> 1267
aaatcttatc aactttccaa attttcatac taaaatatat tattgtatta atacaaacta      60
cagtattata cactacactg tgtaataaat aaagaaatat aaaaataaga cacataaata     120
taaaagtttt ctaaaactaa aagtacatat gtcagtaaga agggtattaa tactgccagg     180
tttgaagaca tacagtacaa aaatgttgca cagatctata aactaaaaga aataaaataa     240
tactgatagg taaaaatcag ctaatgttgt taataaattg ggtccataat aactaacatt     300
tggaaacagt tatgagccaa ataacaatag catgtccatg tctgaaatgc aagtacatgg     360
ataaagcaga ttagaaaatt tccctttcgt ttctgtagag aaattctgaa aatcaatcaa     420
cataaaatca ataccgagga attgaaggat gaaatgtccc agtgtttcag tttctctgac     480
```

```
agagtcagtg gttttaagtt ttatttggga attttgatac aagagacaaa tcaacaaatg      540
ctagttattg taggccacac attggatgaa ggcgggttag agccttgaaa atactgagaa      600
atggcactta cagcacacag gtcttgctta agggcaaagg agatacaaag cttcatgnca      660
tatccttcat atggtaccac atattcaaac accatcccaa cactgatctg atgattttgc      720
tg                                                                     722


<210> 1268
<211> 407
<212> DNA
<213> Homo sapien


<400> 1268
gatgacacaa gcagctaata accatttctg ggtttctgcc taaccccta attgtctgtt       60
aaagccaatt ctctgggtgt cccagtgagt ggtggctttt tttctttcca cattggcaca      120
ttcacttctc ccactcttgg catgtaagaa ataagcattt acataattgg aaaaatctgg      180
atttctgatg ccaaagggtt aaagcttctt ggatttcatt tcattgatat acagccacta      240
ttttatttt gatcagtggc ctttgggcca ctgttcaggg tactgaccat cagtgtcagc       300
attagggttt tggttttgt ttcttttggg tatttctttt ttggcacatg tgaatcttgt       360
tttgtgtaaa atgaaattac tttctcttgt tctctgatga tgggttt                    407


<210> 1269
<211> 675
<212> DNA
<213> Homo sapien


<220>
<221> misc_feature
<222> (1)...(675)
<223> n = A,T,C or G


<400> 1269
ctgaaaaaga gtgatcctca atatcctaac taactggtcc tcaactcaag cagagtttct       60
tcactctggc actgtgatca tgaaacttag tagaggggat tgtgtgtatt ttatacaaat      120
ttaatacaat gtcttacatt gataaaattc ttaaagagca aaactgcatt ttatttctgc      180
atccacattc caatcatatt agaactaaga tatttatcta tgaagatata aatggtgcag      240
agagactttc atctgtggat tgcgttgttt cttagggttc ctagcactga tgcctgcaca      300
agcatgtgat atgtgaaata aaatggattc ttctatagct aaatgagttc cctctgggga      360
gagttctggt actgcaatca caatgccaga tggtgtttat gggctatttg tgtaagtaag      420
tggtaagatg ctatgaagta agtgtgtttg ttttcatctt atggaaactc ttgatgcatg      480
tgcttttgta tggaataaat tttggtgcaa tatgatgtca ttcaactttg cattgaattg      540
aaattttggg tggatttata tgtattatac cctgtcacgc ttctagttgc ttcaaccatt      600
tataccattt tgnacatatt tttacttgna aatatttacc tgncccggcc ggccgtcgaa      660
agggcgaaat tcaac                                                       675


<210> 1270
<211> 268
<212> DNA
<213> Homo sapien


<400> 1270
ccatcctggg cggagctaaa gttgcagaca agatccagct catcaataat atgctggaca       60
aagtcaatga gatgattatt ggtggtggaa tggctttac cttccttaag gtgctcaaca      120
acatggagat tggcacttct ctgtttgatg aagagggagc caagattgtc aaagacctaa      180
tgtccaaagc tgagaagaat ggtgtgaaga ttaccttgcc tgttgacttt gtcactgctg      240
```

```
acaagtttga tgagaatgcc aagactgg                                         268
```

<210> 1271
<211> 307
<212> DNA
<213> Homo sapien

<400> 1271
```
cctactcttc tccgtccatt gtactatctg cccgtggtgg ggatggcagt aggatcatat       60
ttgatgactt ccgagaagca tattattggc ttcgtcataa tactccagag gatgcgaagg      120
tcatgtcctg gtgggattat ggctatcaga ttacagctat ggcaaaccga acaattttag      180
tggacaataa cacatggaat aatacccata tttctcgagt agggcaggca atggcgtcca      240
cagaggaaaa agcctatgag atcatgaggg agctcgatgt cagctatgtg ctggtcattt      300
ttggagg                                                               307
```

<210> 1272
<211> 798
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(798)
<223> n = A,T,C or G

<400> 1272
```
ccattgctag aaattgaatc acaaataata gctaataatt tttcattttt caaaaaagat       60
catttggata gcagctatgt ataaaatgga aaataaaaaa ttattctatt ttgcatgaat      120
agttcagact ttcccatacc acagccaagc agtaactaaa attaggatct taattttcaa      180
tgataaaagg tctaaggttc atttaattat gctcctttaa cactgtcttt ctagattttt      240
cacccagtat tttcaaaatt tgggaatgta aacaattgat atatttattg tatgttggct      300
agcagttcat ccttctgcaa aatatgcatt cagagaaatg tgaagcttgt tttaatgaag      360
acttaaacca tttgtgtcat ttgtgttttc atattcaaat acaccaaatt aaaattctga      420
acctatattt ttcatcatta acttcctaat ataccagaac atatacccttt ttcatgtaaa      480
gttggcaatg ggatatggca gttttatttt tgaaaaatat gtaacatgac tttaatattt      540
ttatagtttt cagaattaga aacataggaa gggaaaatgt tttaattaga taagtcaact      600
ttttatgggc tgnagtggng actataatag caaattataa agcattatta aatggttata      660
ataattttaa tattacctca ttatgaatta actaaaataa agnggagtga tattttaat      720
gggtgntcat actggagctc ctgagatata tgatttgcta ttgactcact ggntgattga      780
ataatatatt actcgcgg                                                   798
```

<210> 1273
<211> 664
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(664)
<223> n = A,T,C or G

<400> 1273
```
aaaatatacc ttttcacagg tagcaagaaa tagtacatgt aataagtctt tatgactgga       60
atgatccaga aatatcacaa agcatgagta aacacatata taaaagtagc tcatcatttc      120
```

```
caaaagttaa cctttagcct ttgtgtaaaa taaatggtgc caacaatctt tataatgtag    180
caagctttcc ctgtttaata tccaaaaaat ggagggtggg gaggttgaag aaaaataaga    240
aaagttagca aataagatag tgaaaagacc aatgcagaga aaagtttatg taatcaaatc    300
ttgctttgtc tccacattat cacattttaa gtggataaat ttatgtaaac agaaaaagat    360
gtccacaaaa ccatatctat agatgtcatt tggaagcatc aagaaattga taagtatgtg    420
gtgaattaaa attactttta taatgttttg ctttcattaa tgtttgttat tgcaaaaatg    480
taagatttcc tacaattttg tcttcaaatc ccaatctagc ccttcaaact tttatccagg    540
ttctccagaa tatttggagt ctttgttatc aaagcacaag gaaagctggc attcattatc    600
agacttcgct gctttacaat ganttcaaat catttcatga tacaaataaa gtgcctctga    660
ctgg                                                                 664


<210> 1274
<211> 153
<212> DNA
<213> Homo sapien


<400> 1274
ccacaataaa gtttacttgt aaaattttag aggccattac tccaattatg ttgcacgtac     60
actcattgta caggcgtgga gactcattgt atgtataaga atattctgac agtgagtgac    120
ccggagtctc tggtgtaccc tcttaccagt cag                                 153


<210> 1275
<211> 504
<212> DNA
<213> Homo sapien


<400> 1275
aaaattctga taaaaattta ctcaattaca ttttatacat taatatttag tgaatttgtc     60
caaaaaggct atgtttaatt tatgtgtaaa aataacaaaa gatgtatcag tcagtctctg    120
ggcaataaga aaggaagaaa gccttgctag aaataataaa taatctcacg caaaaggcca    180
ggtgacataa gaatactaca ataatcaata tgttttcttt gtatttacaa taaaatccat    240
ctgttaacac tgtgatagaa aaaataatca gtccacatca tgtaataaaa acaggctttg    300
aggatgatta tacctcttat aataaaaaca tacaaggatt tctcacagct aaagtacttt    360
tcaactttga caactaatga cagtcatggg tgaaggtaaa actgacagag tactttagat    420
cagctatgtc ctacagtcaa ggaatcaagg gcattaccca tttaccaagc agcaaaaagc    480
actttcattt ttccagaact attt                                           504


<210> 1276
<211> 533
<212> DNA
<213> Homo sapien


<400> 1276
gacaatgatg tcactgtttg gagcccccag ggcaggattc atcaaattga atatgcaatg     60
gaagctgtta aacaaggttc agccacagtt ggtctgaaat caaaaactca tgcagttttg    120
gttgcattga aaagggcgca atcagagctt gcagctcatc agaaaaaaat tctccatgtt    180
gacaaccata ttggtatctc aattgcgggg cttactgctg atgctagact gttatgtaat    240
tttatgcgtc aggagtgttt ggattccaga tttgtattcg atagaccact gcctgtgtct    300
cgtcttgtat ctctaattgg aagcaagacc cagataccaa cacaacgata tggccggaga    360
ccatatggtg ttggtctcct tattgctggt tatgatgata tgggccctca cattttccaa    420
acctgtccat ctgctaacta ttttgactgc agagccatgt ccattggagc ccgttcccaa    480
tcagctcgta cttacttgga gagacatatg tctgaattta tggagtgtaa ttt           533


<210> 1277
```

<211> 78
<212> DNA
<213> Homo sapien

<400> 1277
ccacaggaag ttgcaaaaat tagatggact ctgtgtagct agccactctt gagtgtcagg   60
tctgcatatg tgagtttt   78

<210> 1278
<211> 560
<212> DNA
<213> Homo sapien

<400> 1278
aaatatctaa aacaatggcc cactgaagaa aggaacaatt aactctttaa ttaattcctt   60
aggataagta cccagaaatt taacagctag ggcagacttc taatacaata ccgaaagtcc   120
ttccaaaaac caagtggttg ccaacttatg tcccttagca ttataacatt cttgagccaa   180
tagtgtaaaa atacgctgac aattttatag gcaaacatta ctcaaggtat cttactttcc   240
acttattact aaagtaatta acccctaaat agatgctcct caacagtggg actacatcct   300
ggtaaaccta tcataagttg aaactatcaa gttgaaatgc atttagtacc cggataaacc   360
tatcataaag ttgaaaattt gtaaattgaa ccagtgtaaa tcagaggcca tcttacttca   420
tactcatgaa gcaactatag tgggatattt ttcaacttac gagatagcct aggcttgttg   480
aaacactgtc ctaatttact ggctctctgg taattaagtc ataaatggtc aaacatcaaa   540
ttctagaaaa gcatatattt   560

<210> 1279
<211> 580
<212> DNA
<213> Homo sapien

<400> 1279
aaaggagatt gtttcaaaat atttttgcaa attgagataa ggacagaaag attgagaaac   60
attgtatatt ttgcaaaaac aagatgtttg tagctgtttc agagagagta cggtatattt   120
atggtaattt tatccactag caaatcttga tttagtttga tagtgtgtgg aatttttattt   180
tgaaggataa gaccatggga aaattgtggt aaagactgtt tgtacccttc atgaaataat   240
tctgaagttg ccatcagttt tactaatctt ctgtgaaatg catagatatg cgcatgttca   300
actttttatt gtggtcttat aattaaatgt aaaattgaaa attcatttgc tgtttcaaag   360
tgtgatatct ttcacaatag cctttttata gtcagtaatt cagaataatc aagttcatat   420
ggataaatgc attttttattt cctatttctt tagggagtgc tacaaatgtt tgtcacttaa   480
atttcaagtt tctgttttaa tagttaactg actatagatt gttttctatg ccatgtatgt   540
gccacttctg agagtagtaa atgactcttt gctacatttt   580

<210> 1280
<211> 307
<212> DNA
<213> Homo sapien

<400> 1280
aaacacatac gaagaaatca actgtgatta tgaagtggca gccagctaaa tatgtcttgt   60
atttgctctc ttcctttttt tgcctaactc atcctttact tccattcctg cttccatggt   120
aatgcaggct caaataaatt actaggatac aagattactt caagcctctt ttctgtggaa   180
ctcataatat gataagcatt tgttacaaga ttgcctgtag ttgtttaggg gataaattat   240
attagggaaa gaaagtcttt ctttagttgg ttaaattttc tattataatt gggtactaaa   300
tttattt   307

<210> 1281
<211> 235
<212> DNA
<213> Homo sapien

<400> 1281
aaaatatttt aatagttaca tagcacttta gtttgctgat ttaatttatc ccaagggaca   60
aggatgttaa tgagaaaact gactagattt cagatcacag attttaagag aacaaggatc   120
tcaaaaccaa ataccctctg cttaaagtgt tttttgtgtt tttcactact gaaaatgttt   180
agagattgac ttacctattg ctgatactca aaacatctga tatcttaata ttttt   235

<210> 1282
<211> 230
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(230)
<223> n = A,T,C or G

<400> 1282
aaagaatttc tttataagat tkactgtmta agattaatag cattcgaaga tccccagact   60
tcatagaata ctcagggaaa gcatttacct csgtcgctga ccackctarg ggcsawggcc   120
agcacactgg cggccgttac tagtggatcc gagctcggta ccaagcttgg cgtaatcatg   180
gtcatagctg attnctgtga ggtaccagat tgcctgtagt tgtttagggg   230

<210> 1283
<211> 638
<212> DNA
<213> Homo sapien

<400> 1283
aaacacaaca gctataaacc tgaacacata tgctatcatc atgccataag actaaaacaa   60
ttatatttag cgacaagtag aaaggattaa atagtcaaat acaagaatga aaaacgcagt   120
acatagtgtc gcgaactcaa atcggcattt agatagatcc agtggtttaa acggcacgtt   180
tttgcttata aaaaagtgc aaaaaagatg tggttacaa gttaaagcta cagaatccct   240
ttttgctgta attgcaccag ttttaaagcc tctggacaga gcagtatttc gtttaaaact   300
ttgttyttct taaaagctta cagtgtttgg ctaattctcc tcyccttttt acaagacggg   360
ggccggaggg tggacactgg tggcaggtta agggatactg tcactttaag aagcctgcag   420
attgaagtgt aaacatggag aaattagggg ctgatttttt aaactgtgtg agatattaac   480
cagccgccct gttataaaat caggaaatcc aaacagcgat ttacaccgat taacaccccc   540
tttatatatt ttttacaaaa atacactgag aaaataatca aacgttttca tctctcttgt   600
cttttttgt tttttaaaag tgtcaaaagt ctacattt   638

<210> 1284
<211> 745
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(745)

<223> n = A,T,C or G

<400> 1284
```
cgacggtatc gataagcttg atatcgaatt cctgcagccc gggggatcca ctagttttga      60
atttacacca agaacttctc aataaaagaa aatcatgaat gctccacaat ttcaacatac     120
cacaagagaa gttaatttct taacattgtg ttctatgatt atttgtaaga ccttcaccaa     180
gttctgatat cttttaaaga catagttcaa aattgctttt gaaaatctgt attcttgaaa     240
atatccttgt tgtgtattag gtttttaaat accagctaaa ggattacctc actgagtcat     300
cagtaccctc ctattcagct ccccaagatg atgtgttttt gcttacccta agagaggttt     360
tcttcttatt tttagataat tcaagtgctt agataaatta tgttttcttt aagtgtttat     420
ggtaaactct tttaaagaaa atttaatatg ttatagctga atctttttgg taactttaaa     480
tctttatcat agactctgta catatgttca aattagctgc ttgcctgatg tgtgtatcat     540
cggtgggatg acagaacaaa catatttatg atcatgaata atgtgctttg taaaaagatt     600
tcaagttatt aggaagcata ctctgttttt taatcatgta taatattcca tgatactttt     660
atagaacaat tctggcttca ggaaagtcta gaagcaatat ttcttcaaat aaaanggggt     720
taaactttaa aaaaaaaaaa aaaaa                                          745
```

<210> 1285
<211> 190
<212> DNA
<213> Homo sapien

<400> 1285
```
cgacggtatc gataagcttg atatcgaatt cctgcagccc gggggatcca ctagttatta      60
atagtaatca attacggggt cattagttca tagcccatat atggagttcc gcgttacata     120
acttacggta aatggccgcc accgcggtgg agctccagct tttgttccct ttagtgaggg     180
ttaattgcgc                                                          190
```

<210> 1286
<211> 153
<212> DNA
<213> Homo sapien

<400> 1286
```
ctgcatcttt ctacaattct accagcaata tatgagggtt acaatttctc yccatctttg      60
tgaacgcttg ttagagtctg tcctcttttc ttccattctg tgggttggct ttttactttc     120
taaatggtag aaccttcaaa gcacaaaggt ttt                                 153
```

<210> 1287
<211> 232
<212> DNA
<213> Homo sapien

<400> 1287
```
aaaaacacaa aacactagaa cagttgctat gaaattactg ataatgatcc ctttaataaa      60
ctgcaattaa ccactaatat agaaattcaa tttaagcaag aagtttttata tattatactt     120
tacagaaaaa aataattttg aaaaagtaat gmcaaacaga gatcaaacat ttagggcatt     180
agttactgca ttctcttttt agaatataca ttaagtaaca ctagtaaaat tt             232
```

<210> 1288
<211> 90
<212> DNA
<213> Homo sapien

<400> 1288
aaacttagtg actatttagt tcaattgytc atccattttt tatttgcttt tataattgcc   60
tccttgtttt ggtatattgt aaaataattt   90

<210> 1289
<211> 670
<212> DNA
<213> Homo sapien

<400> 1289
aaatcacaaa gtaaggcacc attggattaa acatttctcc tggcttttac taagtaaaat   60
gcatagtgaa ataaatactg aacactgagt tttaatactg taatacattt caatataaaa   120
taagaggtga atgttaaaat actgtattac atgttgaata catttatctg aaaatgttat   180
aaaaaaacac acatgtaagc tctgatttca gggaagaaaa attcattttt gtaattttcc   240
atagtttaag attttaccac agaacttatt catagtttta gatgcaatta ggttgcaaac   300
tttcaaagaa agggtgtagg tgtattaatg aaacagtcac ttaaacacta cattctaaaa   360
caatctattc tggatgaatg gcaactttga gctatcaccc tgtttcagat ttagaacggt   420
acctgccaag ttcagatatg caaaggaatt gtccaattct tactacccct tataaaattc   480
agactcactt tctctgagtc agactttct ccgtcatatt ttctaggaag ggcaaattcc   540
atcttttgtg aaatgggtca ttaggcttta tcatagggat gttttttcact gttgaaatca   600
gataaaagaa tcccaaataa atgatgctgc taaattacca aactgctaga gattaaaaaa   660
attttttttt   670

<210> 1290
<211> 352
<212> DNA
<213> Homo sapien

<400> 1290
aaacaatgct acacccattt ttggcaaagt gctgtattgt tcagtctgtg tacaaaactg   60
accatctatg aaccaatcag tataaaaaat ttctataaaa acaaaattta gacagtggct   120
caagaaaaca agctgccatt tatgcataga ttgatgtaca gtaacctaac caaatgtccc   180
ttttgaattt tcaagttact gaaaaaaaat gtgtcgagaa acacattaag aaggcacatg   240
tacagtctac aatactcttc agtctcccta actcatgccc tgcccctata aaggaaatat   300
gttcacaatt ttacttgaga aaaaaaaaca aagccactta aaaaaaaaaa aa   352

<210> 1291
<211> 99
<212> DNA
<213> Homo sapien

<400> 1291
aaaaattatt taaggtaatg gtgttacgaa tggtttaaaa atgtctggtg acttgcttat   60
ttttaagtga tcaccattaa gtcagaaaaa tgtattttt   99

<210> 1292
<211> 295
<212> DNA
<213> Homo sapien

<400> 1292
aaatatacct ttatttctca aactcaaagc tttatcaagt tctaacacat tttgcattga   60
caagtgattt tatctgcatc aagtaaggtt agtgaccacc acgaaagagg aatccccaga   120
cctcctaggc actaagaaat atttcaaagg ctatgcaaat atagaacaaa aagctttcaa   180

```
tttagtctaa ttggtatcta tttttcatct atattaattt ggaaataagt tgctacctta        240
gaaaaattac atttttatcc attaaaataa aacaccagat aggttgagtt ttttt            295
```

<210> 1293
<211> 256
<212> DNA
<213> Homo sapien

<400> 1293
```
agattcactt caaagtgaaa atgacaacac atctcaagaa actcaaagaa tcatactgtc        60
aaagacaggg tgttccaatg aattcactca ggtttctctt tgagggtcag agaattgctg       120
ataatcatac tccaaaggaa ctgggaatgg aggaagaaga tgtgattgaa gtttatcagg       180
aacaaacggg gggtcattca acagtttaga tgttcttttt atttttttc ttttccctca       240
atcctttttt attttt                                                       256
```

<210> 1294
<211> 90
<212> DNA
<213> Homo sapien

<400> 1294
```
aaaatactta gctttattaa agacatggta ctaaaaataa cagattccaa catttgctct        60
atttctactt atatatcata aataagacag                                        90
```

<210> 1295
<211> 519
<212> DNA
<213> Homo sapien

<400> 1295
```
ctgtcgcttt atcagtgcta tatttatctg gaatatagag gctccttta ctgtttttaa        60
ggtgctttgt gctaaggatg aagatacaat tcctcagctc ttggtagact tttgggaagc       120
tcagctagtg gcatgtctcc cagatgtggt acttcaggaa ctcttttca aactcacatc       180
acagtacatc tggagattgt ctaagaggca gcctcctgac accacaccat tgcgaacatc       240
ggaggatctt attctcctgg tcattccttg gtagatattt ggaataaaat aatcacactg       300
actgtgattg ggtagatcac attccatatt ctcctgtgag tctcagaaga tgcttcattt       360
tgtagaacgg tgtaagtggt ttccattcca gcatgaatgt ggtcggtcac atggcagtgg       420
agtaaccaaa ttccaggtgt tcttggaaac atttctaggg tttggtatgt tccagggaaa       480
atgtcaaaga catcagaact ataaactccc ctgtgcttg                              519
```

<210> 1296
<211> 419
<212> DNA
<213> Homo sapien

<400> 1296
```
aaagcaaaca gcagaaacca gaagcttctg accctctaac atgtattact gtccaaccca        60
ccatgagaag tatgttcact tggtgacaac aaagagactc cgtatcatat gtatgttaat       120
gaccagattg ttcatatggg attttttctta acagattatc aggttgagaa tgattcttttt       180
tctccaaggg caagaaaaag ctggctaaat gctagttaat taaatccatt ctcaattttg       240
aactgtagag aagaacctga cttgaatgag attttctaaa ggaagacatt tcttgctcaa       300
cctcaggtat aattagatta taaggaatct cacgtccaga atttttatctg ctgattgtta       360
gtatggtagg taattggcct taggacacta tttctactag aacccttttac attattttt       419
```

```
<210> 1297
<211> 199
<212> DNA
<213> Homo sapien

<400> 1297
caggtctgaa gattttacat gcagatacca gataccttaa cttgtatttc tttagtcatc      60
ttttggcttg gaagtttcct ctgttgtctt tgctgaatcc ttcgctttac ctccattctt     120
aggtgctttg gagctggaag cagccttctt gcacttatcc tttgctgtgt tctgtgaggt     180
ttctgtagtg gagggacag                                                  199

<210> 1298
<211> 484
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(484)
<223> n = A,T,C or G

<400> 1298
aaatacactt gaaaagtaaa atgttttct agcttttccc tcagggcgta acaccacacc       60
attcataaca atgctatttt ccaaaggttt caattagatt tcctcagaag catacctgaa     120
ctgttaatca ttacaactcc tttgtgaaac atgggactgg ttgattaccc agtgtaatca     180
ctggctgaaa cctcagcaca ctgttttca ccccagtgga ggcaggtttt cacctcccct     240
ctagctgtac ccctctctta atgcccatat tagagaactg tgatcttctt tctccactag     300
aaatgttcac tttcatcagg taagggataa aacaaaaaca agagacagaa gatcttaaaa     360
aaaaaaatag taatagggca agtaaactca gtgaggttag aggaatttgt ttggggggca     420
ttctatgttg ttagytncat atcatgttca gtttgntggt tctaganccc tctgaaatgc     480
atta                                                                  484

<210> 1299
<211> 419
<212> DNA
<213> Homo sapien

<400> 1299
aaagtccatc tttgcaaatt atacgttgct ataaatacat tgtgtatttg gcattatgtg       60
aatttgttta atccagtgtc aattgtctaa tggtctaaag tgtcccattg aagttataat     120
ctggatgaac tgaacaataa gagaagtttt cttcattagc ccaattgttt atcactcaat     180
tcctactcct gcccatggtt tcttccacct tcctctggag aacataaaga gattctagat     240
ctctgtataa ggtggtttgc tttagcttga aatcatcagt gaggattata catgggcaat     300
gtccagaaat cacattattg ctcatagacc gtgtagtctt gatctaacgg ataactgtac     360
attgtcttca ctaagaagct agggtggttg tccttgatat tgggacattg tagacttgg     419

<210> 1300
<211> 182
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(182)
```

<223> n = A,T,C or G

<400> 1300
```
ccntngaatt gtgtgcatag ggaagcactc acccaatgag actttctcca atgtggactc        60
tgtgtgtcag ggaatgaatg tagaaaaatt cactttggag ggttatcakc tcaactagta       120
agaagcatta atattattaa agtgaagaaa ctgcagagaa aattacagaa caaaactgta       180
gg                                                                      182
```

<210> 1301
<211> 312
<212> DNA
<213> Homo sapien

<400> 1301
```
aaagttttta tctctgctga ggcttcacat ctgtttgctc aattttattt ttatttcaat        60
ccttgagcat gtttataata tagtagtatc cccttattgt ggctttactt tcctcacttt       120
cagtcaccca cagtcaaaaa atatgaaata taaaactcca gaagtaaaca gtttataaat       180
tttaagtcac actttgttct gaggaatgtg atgcaacctc ccgccattct gctgtatcca       240
gttcaggatg tgacataccc ctttgctcag cagatacaca attcctgctt cctgctcatt       300
agacatttgc ag                                                           312
```

<210> 1302
<211> 109
<212> DNA
<213> Homo sapien

<400> 1302
```
attcttagat tatatgtgtc catctttgca gctttctgag agtaatttta tttgttgtct        60
tctgaaatgt acatgtatac atgtacctac tgagtgctat gtgattttt                   109
```

<210> 1303
<211> 330
<212> DNA
<213> Homo sapien

<400> 1303
```
ccagagttac ttggatcagc atttaggaaa gtaaaatata gtggaagtaa aactgactca        60
tccaactaga cattctacag aaagaaaaat gcattattga cgaactggct acagtaccat       120
gcctctcagc cagcccgtgt gtataatatg aagaccaaat gatagaactg tactgttttc       180
tgggccagtg agccagaaat tgattaaggc tttctttggt aggtaaatct agagtttata       240
cagtgtacat gtacatagta aagtattttt gattaacaat gtattttaat aacatatcta       300
aagtcatcat gaactggctt gtacattttt                                        330
```

<210> 1304
<211> 170
<212> DNA
<213> Homo sapien

<400> 1304
```
ccactgtagt ctgcatatcc ctgtccatat ccatagttcc catagttata cccagtataa        60
tcatatccgc catagccact atagttttga tcaccaccat aggcactatt gtaatttcca       120
tatccttgat cataatagtt attaaatcct tggttccagt tttggccctg                   170
```

<210> 1305

```
<211> 468
<212> DNA
<213> Homo sapien

<400> 1305
aaaaataaat atttatactc cagcttttgt gtatttggtg tacatcacca cttatgcaaa      60
tcaaggatca gaaaactgga ggttagccat ctccattatt tccttttgca cattgggtac     120
agtgggtggc attagtatgc actagctgca aagtcacagc accttatgga aataagtatg     180
tttattataa taaaaaaaag ttaagctgca tctctgtaga ttatttactt tgcagactgt     240
aaagctgccc tatcttttcc agcagaattt actcttccat tcttaattct tttttgaaat     300
atcttaaata atttaacatt cctttataac ttcttaacag tgtcaaaact ggggtagaag     360
ggattttatt ttttcccaaa agggttccat ctttgctatc tgttgatcag ccttagaaaa     420
tctaagtatg atcaataaat tttaatggtt gatggcatcc tgtgtcag                  468
```

```
<210> 1306
<211> 326
<212> DNA
<213> Homo sapien

<400> 1306
tggtaaagaa ctacctgtta atgcacaaaa ctatgtgcga tttattgaag atgagcttca      60
aattccagtt aagtggattg gtgttggtaa atccagagaa tctatgattc aactctttta     120
atgattgcca gtaatgcaag aaacactcct tgagagggag gggaaaagac tttcttaaat     180
atttcattta tgacctgcaa attcaagaat aaagacactg aagtaagttt gaagccctac     240
agytgtttcc agtcttttca gatggatgcc tactgtggag attaactttg gcatattcca     300
gtgtcagctt tctttagctg gaattg                                         326
```

```
<210> 1307
<211> 614
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(614)
<223> n = A,T,C or G

<400> 1307
aaaaattatt actgtaagaa atagttttat aaaaaattat atttttattc agtaatttaa      60
ttttgtaaat gccaaatgaa aaacgttttt tgctgctatg gtcttagcct gtagacatgc     120
tgctagtatc agaggggcag tagagcttgg acagaaagaa aagaaacttg gtgttaggta     180
attgactatg cactagtact tcagactttt aattttata tatatataca ttttttttcc     240
ttctgcaata catttgaaaa cttgtttggg agactctgca ttttttattg cggntttttt     300
gttattgttg gtttatacaa gcatgcgttg cacttctttt ttgggagatg cgygtytgyt     360
gatgttctat gttttgtttt gagtgtaggc tgactgtttt ataatttggg gagttctgca     420
tttgatccgc atcccctgtg gnttctaaag gggatggncc tcagnaactg ttgcatggat     480
cctgtgtttg caactgggga ggacagaaac tggggtgat agccagtcct gccttaagaa     540
catttgatgc aaagaatggg accctgcccc ggggccgggn cccctccgaa angggggga     600
aaatcccang cacc                                                      614
```

```
<210> 1308
<211> 304
<212> DNA
<213> Homo sapien
```

<400> 1308
ctgtcttttg gaggacgtac gtaataaggt tttaatttag taaaccaatc ctatgcatag   60
tttcagcact agccaaacct caccaactcc tagttctaga aaaacaggca cttggcagcc   120
ttgtgatgtc atacagagaa gtcacaggca gtacctgagg gtctgtaggt tgcacacttt   180
ggtaccagat aacttttttt ttctttataa gaaagcctga gtactccaca ctgcacaata   240
actcctccca gggttttaac tttgttttat tttcaaaacc aggtccaatg agctttctga   300
gcag   304

<210> 1309
<211> 289
<212> DNA
<213> Homo sapien

<400> 1309
gggatttcca attaacagta ttaccagata aatattcttg gtccaagcag aaaatatcaa   60
caaaaagagc cttcttctcc tgtaaatctt aaatgcctac atcactcttt atgatacatg   120
gatcatctta tgtggatact taaatttttc atgtctgctt cttttgcctc tcccaactat   180
actatgagga aattcggaac aaagacattt ttgtaatatt tcttatctcc ttcacaccta   240
gtatagagct gattttacaa aggcatttaa gagatatttg aattgattt   289

<210> 1310
<211> 534
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(534)
<223> n = A,T,C or G

<400> 1310
tgctttgcat tttctgatgt attacatgac tgtttctttt gtaaagagaa tcaactaggt   60
atttaagact gataatttta caatttatat gcttcacata gcatgtcaac ttttgactaa   120
gaattttgtt ttactttttt aacatgtgtt aaacagagaa agggtccatg aaggaaagtg   180
tatgagttgc atttgtaaaa atgagacttt ttcagtggaa ctctaaacct tgtgatgact   240
actaacaaat gtaaaattat gagtgattaa gaaaacattg ctttgtggtt atcactttaa   300
gytttgacac ctagattata gtcttagtaa tagcatccac tggaaaaggt gaaaatgttt   360
tattcagcat ttaacttaca tttgtacttt agagtatttt tgtataaaat ccatagattt   420
attttacatt tagagtattt acactattga taaagttgt aaataatttt ctaagacagn   480
ttttatatan gctacagggt gccctgattt tcttattgaa tttggttaga ctag   534

<210> 1311
<211> 114
<212> DNA
<213> Homo sapien

<400> 1311
aaaatttgta ggagttgtag actacctaaa tttttaagtt atggyatttg gtcataggtt   60
gactgggtag gtaaagaagg aaacagacaa gaaaatggct tcttgaggtg gcag   114

<210> 1312
<211> 95
<212> DNA

<213> Homo sapien

<400> 1312
gggcgggtaa aggtaggccg cgagagcgag gttaggagag gataggaggc cgcagtactg   60
ctcacacgct ccgctcttct cccactctcg actct   95

<210> 1313
<211> 519
<212> DNA
<213> Homo sapien

<400> 1313
aaatgataca gtattttagg tatgatttaa gactatgatt tacctataca ttatatatat   60
tttataaaga tactaaacca gcataccctt actctgccag agtagtgaag ctaattaaac   120
acgtttggtt tctgaataaa ttgaactaaa tccaaactat ttcctaaaat cacaggacat   180
taaggaccaa tagcatctgt gccagagatg tactgttatt agctgggaag accaattcta   240
acagcaaata acagtctgag actcctcata cctcagtggt tagaagcatg tctctcttga   300
gctacagtag aggggaaggg attgttgtgt agtcaagtca ccatgctgaa tgtacactga   360
ttcctttatg atgactgctt aactccccac tgcctgtccc agagaggctt tccaatgtag   420
ctcagtaatt cctgttactt tacagacagg aaagttccag aaactttaag aacaaactct   480
gaaagaccta tgagcaaatg ggctgaatac tttttttt   519

<210> 1314
<211> 518
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(518)
<223> n = A,T,C or G

<400> 1314
ccatggtggg tgaagacgct gatctgccct gtcacctggg gttttttatg agtgcagaga   60
ccagggagct gaggaaaccc gagytccagc ctaaggcagg tggtgaacgt gtatgcagat   120
ggaaaggaag tggaagacag gcagagtgca ccgtatcgag ggagaacttc gattctgcgg   180
gatggcatca ctgcagggaa ggctgctctc cgaatacaca acgtcacagc ctctgacagt   240
ggaaagnact tgtgttattt ccaagatggn gacttctacg aaaaagccct ggtggagctg   300
aaggttgcag gtgagcctcc aggttttgnt ctgagaacac ttctctgtag gatctanagc   360
agatgcagag tccctcttcc aaaagtactg cagacactcc tggctgctca ctagcaatng   420
tctgcactgc ctcccaactn agcttctctg caacccttaa gaaagacaca ttctttcttt   480
agaaagaatt cctgctgnac cttacatgcc gaagtaaa   518

<210> 1315
<211> 360
<212> DNA
<213> Homo sapien

<400> 1315
tctgtgcatc caatttatta tagwtttgta agtaacaata tgtaatcaaa cttctaggtg   60
acttgagagt ggaacctcct atatcattat ttagcaccgt ttgtgacagt aaccatttca   120
gtgtattgtt tattatacca cttatatcaa cttatttttc accagkataa watcttratt   180
tytacgacct atcattctga atcaagmaca ctgtatgttc agtaggttga actatgaaca   240
ctgtcatcaa tgttcagttc aaaagcctga aagtttagat ctagaagctg gtaaaaatga   300

```
caatatcaat cacattaggg gaaccattgt tgtcttcact taatccattt agcactattt       360
```

<210> 1316
<211> 277
<212> DNA
<213> Homo sapien

<400> 1316
```
aaaaaacacg tttgttatta ccaaawagag acggctttag gtaaaaataa taaaaaccct        60
ttgcttgyat tacytatgca ratagttsta tttatctggw cwacgggyta aaggyacagy       120
actataggwc tctggcttga gtmtttacgt tcatttctta ttgctggaat ktcatatttc       180
ttcttgttgg atgactaaac cggatgatgg tagagatggt aagccggcat ttactcagcc       240
ccgccctgct cagcctcggg agcggacgaa ttctcag                                277
```

<210> 1317
<211> 716
<212> DNA
<213> Homo sapien

<400> 1317
```
aaaatgttct cttgagacta gtaggcatag aagaaagcag aaggaaaata aatagaaaga        60
aggtcttcta ccttcatggc tattcaggct caggagggtg gagagaaaaa gaaggaggac       120
aaatgaacaa gacagatgag ggagacatcc tctctgatat aagatacagt cctctctggt       180
ggatggagtc caatttgtgt aacttcctat gtattttcct agataggacc accactattt       240
gagaaaatat ctcactggta acctaaagcc aaggataata aaccttgata tacttaacat       300
tcaatttctt tccagcaatg tgataaataa atctatcttg tgtttctctt gcagattgta       360
aaagcattag aacatttaca tagtaagctg tctgtcattc acagaggtaa gcatccatga       420
gctgccttgg ctgttccttt gataaagttc atctctttca cctggagtcc gtctctaccc       480
ccagtccccc atgggtggaa gtagaattga ctcaggcaag agaactaagg ggctttcctt       540
tgagattgga tagcaaacca tataagtagt attccttatc atggctgagg acataagaag       600
aagacgtgat ctttgtctta catccaaatt gaatataaac acttggtagc aagcagagct       660
atgagatcat atcattgaga attttagaga atatgataaa aattgatctt gtctgg          716
```

<210> 1318
<211> 515
<212> DNA
<213> Homo sapien

<400> 1318
```
aaagctgtat catgttgagt aaacctgacc tgagccagcg gtttaaggcg attttgctcg        60
atgaaggtca agacgtgaac ccggtcattg ccgacttggt aaggatacag cgcatctgca       120
aagtaaccgt cggcgaccct caccagcaga tttaccgttt ccgtggtgcc gaagacgctc       180
tcaacagcga ttggatggcc gatgcagagc gtcactacct gacccagagc tttcgcttcg       240
gtccagcagt cgcgcatgtg gctaacatca tacttttta caagggtgaa actcgaaagc       300
tgcaagggtt aggccccaaa acccaggtta aacgtgcgct tcctgaagac ctaccgcatc       360
gcacatacat ccatcgcacg gttaccggcg tcatagagaa cgcgcttagc ttggtagcga       420
gcaatccaaa gatctattgg gtaggtggca tcgacagtta ttcattgcgc gacctggaag       480
acttgtatct gttcagccgc aaccaaaacc aagcc                                  515
```

<210> 1319
<211> 141
<212> DNA
<213> Homo sapien

<400> 1319
```
aaatttagtg tctcatttgg aaataaactc tgggcctatt agttgttgag tatttttttt        60
ttttactacc taaaaaaaga tttgttaaga gctgaattac aacttagcat tacataatat       120
aaaacactgt aatgtgtatt t                                                   141
```

<210> 1320
<211> 497
<212> DNA
<213> Homo sapien

<400> 1320
```
aaattcagtc ctaagaaaga ggagtgcttg tcccctaagg gtgtttaatg gcaaggcagc        60
cctgtctgaa ggacacttcc tgcctaaggg agagtggtat ttgcagacta gaattctagt       120
gctgctgaag atgaatcaat gggaaatact actcctgtaa ttcctacctc cctgcaacca       180
actacaacca agctctctgc atctactccc aagtatgggg ttcaagagag taatgggttt       240
catatttctt atcaccacag taagttccta ctaggcaaaa tgagagggca gtgtttcctt       300
tttggtactt attactgcta agtatttccc agcacatgaa accttatttt ttcccaaagc       360
cagaaccaga tgagtaaagg agtaagaacc ttgcctgaac atccttcctt cccacccatc       420
gctgtgtgtt agttcccaac atcgaatgtg tacaacttaa gttggtcctt tacactcagg       480
ctttcactat ttccttt                                                       497
```

<210> 1321
<211> 344
<212> DNA
<213> Homo sapien

<400> 1321
```
ctgtccaatg acaacaggac cctcactcta ctcagtgtca caaggaatga tgtaggaccc        60
tatgagtgtg gaatccagaa cgaattaagt gttgaccaca gcgacccagt catcctgaat       120
gtcctctatg gcccagacga ccccaccatt tcccctcat acacctatta ccgtccaggg       180
gtgaacctca gcctctcctg ccatgcagcc tctaacccac ctgcacagta ttcttggctg       240
attgatggga acatccagca acacacacaa gagctcttta tctccaacat cactgagaag       300
aacagcggac tctatacctg ccaggccaat aactcagcca gtgg                        344
```

<210> 1322
<211> 110
<212> DNA
<213> Homo sapien

<400> 1322
```
ccaccacata gccagccagg aatcccttga ggaacgggga ggacaacagc gagccaccct        60
ggcccactcc actgttgact tcgtcttcta cacgccgctg caggctttcc                  110
```

<210> 1323
<211> 359
<212> DNA
<213> Homo sapien

<400> 1323
```
ccacgctgct ggcctgggct ggcgtctcct gctgtgagct ggctgaggag gacttcctgg        60
cggtctcccc cttagatccg cgctatcgtg aggtccacta tgtcctgctg gatccttcct       120
gcagtggctc gggtgagatg gtgagaaggc gtggctgagg gactcagagg tccacagcag       180
cttagacctg gagtcatctg ttttggtctt agttctgaca ctttaatggg cttgggaccc       240
tggagcaaaa gttctcctct gtgaagcgag gatttcagga gcgaggattt caggactgag       300
```

```
gcagcctgtg aagctgtgta accgagacac gcttttcctt aggtatgccg agcagacag        359
```

<210> 1324
<211> 258
<212> DNA
<213> Homo sapien

<400> 1324
```
caatcacaca accacaaaaa agatactgtg tgctctcact ttccaaaatt ctgcctggtc        60
tmctcctgag gaaagyagtg atatggtagc tggtgtggat cccctaaagg aattataaga       120
tggartgyga rgaacattat cttagactat aakactgkct gcatrcrgat atgktstcra       180
agattattcc tgctgcraat aaagakmttg skaaagagca rtatasagct atcacagtct       240
attgacccam asatgttt                                                      258
```

<210> 1325
<211> 534
<212> DNA
<213> Homo sapien

<400> 1325
```
ctgtccaatg gcaacaggac cctcactcta ttcaatgtca caagaaatga cacagcaagc        60
tacaaatgtg aaacccagaa cccagtgagt gccaggcgca gtgattcagt catcctgaat       120
gtcctctatg gcccggatgc ccccaccatt tcccctctaa acacatctta cagatcaggg       180
gaaaatctga acctctcctg ccacgcagcc tctaacccac ctgcacagta ctcttggttt       240
gtcaatggga ctttccagca atccacccaa gagctcttta tccccaacat cactgtgaat       300
aatagtggat cctatacgtg ccaagcccat aactcagaca ctggcctcaa taggaccaca       360
gtcacgacga tcacagtcta tgcagagcca cccaaaccct tcatcaccag caacaactcc       420
aaccccgtgg aggatgagga tgctgtagcc ttaacctgtg aacctgagat tcagaacaca       480
acctacctgt ggtgggtaaa taatcagagc ctcccggtca gtcccaggct gcag             534
```

<210> 1326
<211> 177
<212> DNA
<213> Homo sapien

<400> 1326
```
ctgcattatg tgtgtttaga acgagaagtt gtttgtacag tattttttcta ttgaccgctt       60
ccgtcttgcc tgaaacctgg gcattctttc caatagacag aaaatcagag agtcaaatct       120
gatgcgcaat gagttgttct gagaccagta atccacggtg ctgcaatttg ggttttt          177
```

<210> 1327
<211> 266
<212> DNA
<213> Homo sapien

<400> 1327
```
aaacttgttt tatctaatac tgagcactgt ttttttgtca agtatttttt taagaccaca        60
taattctttt tgtctgctca aggaaaggat agataaataa ttggcacaca tttgtttctc       120
actgaatttt acagtagtaa attaatgtta taatgtacca catggagatg agttggtaag       180
aaatcatcta gttccagagc ccagggatta taaacagtag gtgaaataga tttatgactt       240
acgaaatatg ttgtgacaat atattt                                            266
```

<210> 1328
<211> 409

```
<212> DNA
<213> Homo sapien

<400> 1328
ctgtccaatg gcaacaggac cctcactcta ttcaatgtca caagaaatga cgcaagagcc      60
tatgtatgtg gaatccagaa ctcagtgagt gcaaaccgca gtgacccagt caccctggat     120
gtcctctatg ggccggacac ccccatcatt tcccccccag actcgtctta cctttcggga     180
gcgaacctca acctctcctg ccactcggcc tctaacccat ccccgcagta ttcttggcgt     240
atcaatggga taccgcagca acacacacaa gttctcttta tcgccaaaat cacgccaaat     300
aataacggga cctatgcctg ttttgtctct aacttggcta ctggccgcaa taatcccata     360
gtcaagagca tcacagtctc tgcatctgga acttctcctg gtctctcag                 409


<210> 1329
<211> 136
<212> DNA
<213> Homo sapien


<400> 1329
ccattttcgc acagtccacc ataaaattga aaagattgac cagagacaga tcatggaggg      60
cttggcaatc tgtactgatg aagccatgga ccagaagaga agtgagtcaa tgaagagagt     120
ttctctttc acatgg                                                      136


<210> 1330
<211> 311
<212> DNA
<213> Homo sapien


<400> 1330
ctgctaacag ccctaacggt gcaacacaag tacaaactca ggaacctctt cgactgccac      60
gcccttcacc aacagaagga agacagtggc gccaccacaa gtggcagggc acaggggctt     120
ctgtgacaac aatatgtcct tctagtatac attcattgca aaggctgccc tgaagtttcg     180
tttttggaaa taactgttat catacatttt gtatgatgtt gcttgtgggc accatgaaga     240
gagcctggct gtaaaggaca gagggagcta aaccaacaat gcatggccct gcgtgcccac     300
aagagggagc c                                                          311


<210> 1331
<211> 613
<212> DNA
<213> Homo sapien


<400> 1331
ctgggccakg agctgtgccc ggtgcctgca gccttcataa gcacacacgt ccattcccta      60
ctaaggccca gacctcctgg tatctgcccc gggctccctc atcccacctc catccggagt     120
tgcccaagat gcatgtccag cataggcagg attgctcggt ggtgagaagg ttaggtccgg     180
ctcagactga ataagaagag ataaaatttg ccttaaaact tacctggcag tggctttgct     240
gcacggtctg aaaccacctg ttcccaccct cttgaccgaa atttccttgt gacacagaga     300
agggcaaagg tctgagccca gagttgacgg agggagtatt tcaggttca cttcaggggc      360
tcccaaagcg acaagatcgt tagggagaga ggcccagggt ggggactggg aatttaagga     420
gagctgggaa cggatccctt aggttcagga agcttctgtg caagctgcga ggatggcttg     480
ggccgaaggg ttgctctgcc cgccgcgcta gctgtgagct gagcaaagcc ctgggctcac     540
agcaccccaa aagcctgtgg cttcagtcct gcgtctgcac cacacaatca aaaggatcgt     600
tttgttttgt ttt                                                        613


<210> 1332
```

```
<211> 591
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(591)
<223> n = A,T,C or G

<400> 1332
ctgagttaan atggtaaagc caatattatt ttaggaggaa agaggacgaa ggccaatgaa    60
ccaacatctg cctgctatct ggtgcatcac ccaaggtgac caatggctgg gcacaaataa   120
acttctcttt tgctagccac agagttgctc actgtggcaa gcctgagctg gtcagaacac   180
ctgtgtgtgt gttcctgata cacactaacc acaataagca agtctgcaca catctctatg   240
agccccatgc aaagacaaga cattcccaaa gatcagtcac tagagtgcaa caacgaaatt   300
caagatttga ccaaaacaga ccctgctgcc tcctaaattg ccaattgcct ctcaaaaact   360
tacagaaaaa gggacattat aagaattcat agagggagag aagaaaaagc tgctactcct   420
agtcattagt acaatgtgct gtgttaatta gatacctcta tataaattag aaaaagtgct   480
ttacttgcat gcttcaataa aatgaatact gagtgtcgta gtgttagatc tgtacagata   540
taaatttttt gcagctatat aaaagtgtat aagatgggct tttgcatttt a            591

<210> 1333
<211> 379
<212> DNA
<213> Homo sapien

<400> 1333
ctggtacaaa ggcgaaagag tggatggcaa cagtctaatt gtaggatatg taataggaac    60
tcaacaagct accccagggc ccgcatgcag tggtcgagag acaatatacc ccaatgcatc   120
cctgctgatc cagaacgtca cccagaatga cacaggattc tatacccctac aagtcataaa   180
gtcagatctt gtgaatgaag aagcaaccgg acagttccat gtatacccgg agctgcccaa   240
gccctccatc tccagcaaca actccaaccc cgtggaggac aaggatgctg tggccttcac   300
ctgtgaacct gaggctcaga acacaaccta cctgtggtgg gtaaatggtc agagcctccc   360
agtcagtccc aggctgcag                                                379

<210> 1334
<211> 384
<212> DNA
<213> Homo sapien

<400> 1334
aaaccatttg tacaaaactt ctataaattt ttctctctct ttctctctta tgtacaaaaa    60
tatcttaata tatccccgaa ctggttagga tagatacaaa tagatttttt ataataaaaa   120
attcacaaaa gattggaagc attctataat gaaaatggta gaaaagacag tgtgagggaa   180
gccatggggt ttgggaatcg ggccctggag gagaagcaga gtttcaaagg gctgagaata   240
gcatagtttc actgtaaacc aatgtctaca gcttattggg gtgggggcta ctgagacgaa   300
agacaccaac tcgtttctag agggctaaga actgcacttt aagaaagggc ggggaggtga   360
agggacccga gcaagaactt tcag                                          384

<210> 1335
<211> 555
<212> DNA
<213> Homo sapien
```

<400> 1335
aaattagttg ctataaattc atcaatactt tttttcccta ttatattttt ggttctatta   60
ggatttactt aactgaatct tataacaatt cgaggtgaac tgtggcaatg aaaaccagaa   120
acagttaatg agatgcttca gctcacagtt tgaagtgctg agaacctaag tattttgctg   180
tacggtactg agctgtacca aaatatgatg gtttaggttt atgtgcaaga ctttgtgttg   240
tagtctagac aaaggggtgg gcaagagaca tgcaaagctg aagccctgct tgaaaagacc   300
cttcaaggaa gtaaaatggc aggggcagag tgcagcttaa catgttgcta tccctgttgt   360
ttttgagttg gttttggaat ggattcaagt tcttacacaa tttattttga atacaagcat   420
aatctaggtg atttgagtta atgaacttct tttcatgatg tagggaaagc tgaatgtata   480
tatttctaag aagaatttgt ttagcagatt acaagttggc aaaatagact gttcacagaa   540
actaggcaaa aattt   555

<210> 1336
<211> 505
<212> DNA
<213> Homo sapien

<400> 1336
cctggaaaga agcccagcaa aaggttccag atgaagaaga aaatgaagag agtgacaacg   60
aaaaggaaac tgaaaagagt gactccgtaa cagattctgg accaaccttc aactatcttc   120
ttgatatgcc cctttggtat ttaaccaagg aaaagaaaga tgaactctgc aggctaagaa   180
atgaaaaaga acaagagctg gacacattaa aaagaaagag tccatcagat ttgtggaaag   240
aagacttggc tacatttatt gaagaattgg aggctgttga agccaaggaa aaacaagatg   300
aacaagtcgg acttcctggg aaagggggga aggccaaggg gaaaaaaaca caaatggctg   360
aagtttttgcc ttctccgcgt ggtcaaagag tcattccacg aataaccata gaaatgaaag   420
cagaggcaga aargaaaaat aaaaagaaaa ttaagaatga aaatactgaa ggaagccctc   480
aagaagatgg tgtggaacta gaagg   505

<210> 1337
<211> 385
<212> DNA
<213> Homo sapien

<400> 1337
ctggtgctag tcagagctaa tgacagaatt tcagtttaat aaaaagaccc ccaactgagc   60
acaccatctt gaaaaaagta tacttatcaa acagctttca atcagttcaa gagagacacc   120
ttaattgggg agaggaagaa ttgcagagta gtttgtaatc atgccaattc cagatcaata   180
actgcatgtc tgttctttgg tagaaatagc ttttgcttta tattaagtaa tcacatatat   240
attctctcta tttggataag gaaaccttcg ctttatttga caatgtataa tgatatactc   300
ttctaattca cctctgtgtc ttcacaataa acatgagtaa aatttagaca agtgatggta   360
aaggtcaata taattattta ttttt   385

<210> 1338
<211> 350
<212> DNA
<213> Homo sapien

<400> 1338
aaaggtgata ttacacaaaa cctcgtcttt tgttcaactt tggatccatt ggcaattcaa   60
tggcctcaat ctccccaaac tcgccaaagt actccctgat cttttcctca gtggcttcag   120
gattcagacc cccaacgaag attttcttca ccgggtcctt cttcatagcc atggcctttt   180
tagggtcaat gacacggcca tccagcctgt gctccttctg gtctaggacc ttctccacac   240
tggctgcatc tttgaacagg ataaacccaa accctcttga ccgtccagtg ttgggatcca   300
tttttattgt acagtcaacg acctctccaa atttagtaaa atagtctttt   350

```
<210> 1339
<211> 443
<212> DNA
<213> Homo sapien

<400> 1339
ctgctcctct agtaataagt tcctggggat aatacattaa ccaacattgg ttgaaacata      60
cctgagtaat catatcagga tgcatgttaa gctgataaaa caataagatc ccaaaatgca     120
gtagctcaaa aaaagtagaa gttaatttat ctcctggggg acagctctgg ttctcaaatt     180
ttacaggctc agaatcacct gcagggcttg tgaaagtaca gattgctgcg ctccgccccc     240
agagtttctg atttagtagg tgttaggctg aaccaagaat ttgcctttct aacaagctcc     300
caagtgatgc tgatgacttg taggaatgga tttacttcta ggattagact tcagctcact     360
ctgtttgctg aactctttct aatatttctt aagttggtag actcyctgct ccaggttctc     420
aacgtgaagg aaggaacccc cag                                             443


<210> 1340
<211> 273
<212> DNA
<213> Homo sapien

<400> 1340
cctcaggaac aggtaggggc agcagaatag aatagcatcc atttcccaga gaaagactgc      60
ctttacatkt cccatgcttt tagcacaaag cagcgtctgg gccactgtta ccagaggtga     120
gtttatacat ttacaaaatg cttaaaatct ttgggaagca agaggaagct aaacagaagg     180
tcccatgtta actgaaggca aattcactca acctctctag taagggaccc atgggcctac     240
agagtgttcc ctctacaatg tgcagagtgg aaa                                  273


<210> 1341
<211> 561
<212> DNA
<213> Homo sapien

<400> 1341
ccatgggccc ggtcacgaac aaaacgggcc tggacgcctc gcccctggcc gcagatacct      60
cctactacca gggggtgtac tcccggccca ttatgaactc ctcttaagaa gacgacggct     120
tcaggcccgg ctaactctgg caccccggat cgaggacaag tgagagagca agtggggggtc     180
gagactttgg ggagacggtg ttgcagagac gcaagggaga agaaatccat aacaccccca     240
ccccaacacc gccaagacag cagtcttcyt cacccgctgc agccgttccg tcccaaacag     300
agggccacac agatacccca cgttctatat aaggaggaaa acgggaaaga atataaagtt     360
aaaaaaaagc ctccggtttc cactactgtg tagactcctg cttcttcaag cacctgcaga     420
ttctgatttt tttgttgttg ttgttctcct ccattgctgt tgttgcaggg aagtcttact     480
taaaaaaaaa aaaaatttt gtgagtgact cggtgtaaaa ccatgtagtt ttaacagaac     540
cagagggttg tactattgtt t                                               561


<210> 1342
<211> 159
<212> DNA
<213> Homo sapien

<400> 1342
aaagatggca aggcaataaa tgtgttcgta agtgccaacc gactaattca tcaaaccaac      60
ttaatacttc agaccttcaa aactgtggcc tgaaagttgt atatgttaag agatgtactt     120
ctcagtggca gtattgaact gcctttatct gtaaatttt                            159
```

<210> 1343
<211> 76
<212> DNA
<213> Homo sapien

<400> 1343
aaaatgtaaa gccaatctat caccaaaaat ggcataaatg taaacacaag ctaattttat   60
aatccactgc tattt   76

<210> 1344
<211> 726
<212> DNA
<213> Homo sapien

<400> 1344
caaaagcagc ctgaatacgc aactcacgcc aagagggcag cagctctcct gacatccatg   60
taagaaggct aacacctaaa ccacacgcag gcatcctgaa ctcagcagct ctgatccaag   120
gtactgagtg gagacaaagc actcggaggt ggcaagatgt tcagcaacca agtaagacac   180
actggcaagg catcccaccc aaaggtgaga agcacaaagc aggcttggag aaacaaacag   240
tcatgccagg tgcagccaga catcctgcta taagccctga ccctagtacc ccgagttcat   300
caagtgctct ggttttgtgt ccataaagca cagagggcac tgaccacccc aaaccagaat   360
cccaaggaat ccttatggat ggcatagggc ctcagaactg ctgcaggatc attttccttt   420
tcaggtcgtg gctgaacttg ttcatcctga agagctcact gtcataaaat gcagagaggt   480
tgtggatgtt gatctgacga gccttatcca ccaagtcctt mtcagggacc tcaatagtgt   540
cctgctgggc cccaaagcgg ttgcgctgat atgtcacstg ctctgccact aactgcttca   600
gtatgaagag caacagctca ttgttgtcac gccggaatga aaggtagcgg gcaaaagtct   660
tgcgcatgct gcgcatgacg ctgaacttct gtgtgtctat gaagstctcc akmatcayga   720
gratgg   726

<210> 1345
<211> 742
<212> DNA
<213> Homo sapien

<400> 1345
ccagagagcc ctgtcctgtg agggtggtta tcacagtggc agggttcaat tcagaagacc   60
ttgagggcag gctgatgttt cctgaatggg ccctggttg ttgcttgtcc ctgactctcc   120
atttccccat ctgagtggat ttggacctaa tagggcactg gagctggttc gaatcctgac   180
tggactactt ggcaacttta tgtctgggag caagttactt aacctcccca agcctgtgtc   240
tgtgaaatgc gggtaaatga atgtagatgt ttggcagcag ctactccttg ttgagctctc   300
acagtgaact ctcctgcctc tgccctcctt ccccgcctcc cctggtgcct agcgtcaggt   360
ctagccactt cctcctgggc ccctctccct tttctgtggc tggctgcctg cccgcctggc   420
gctggacctt tcatgtaacg ggaatcagca tgtatattct ggtctggtct gtttctacac   480
ttaattttgt ttccagtagt atttccctgt accggcagag ttcacaaaca catttgaaga   540
ggctttttct caggattctt aaccttccaa aggaagtccc atggatgggt ttctagaagt   600
ctataaatgc tctgaaattg tattttctg tggaaaagca taactttat ctgcttggtc   660
gtgctcaaaa aaagatcatg aatggaatga attgcattga attttatgcc attgggggct   720
taatactaaa aggatatgga ag   742

<210> 1346
<211> 573
<212> DNA
<213> Homo sapien

```
<220>
<221> misc_feature
<222> (1)...(573)
<223> n = A,T,C or G

<400> 1346
aaatgcattk ttaacttaca gtattttcaa cttacgatgt gtttatcasg aagtaacccc      60
atcataagca gaggagcatc tgtattgcgt aatttgactg gcacagttta ttaggttctg     120
ttcagtgwtt tccgtcaaca agatgtttat tgtgtgagta aacaagttaa gccctgtgac     180
aagctgaata agaatagtct ctcctcagca gcttatagta aacaagggta gtaatcctta     240
cattagtggc tagactatca aacgaaatat ataacatgta agaacactaa agacagaatt     300
actgtggcat agagatagtt agaattgctt cagcctaaga gatgaattag gtaatgcaag     360
gaggtgaata tgttggcctg caatatgaac aaggcagaga gctgggagag taagatgtaa     420
gttgctaagg agggatgtgt cttgagtttg gaaaccataa agggaaatca taggtaatgc     480
tagagtcact gatcttangg agccttgaat aacggtgatg actaagggaa tctttatttt     540
ggngggacta ttggaattaa attggccaga att                                  573


<210> 1347
<211> 333
<212> DNA
<213> Homo sapien

<400> 1347
cctggtttct ggtggcctct atgaatccca tgtagggtgc agaccgtact ccatccctcc      60
ctgtgagcac cacgtcaacg gctcccggcc cccatgcacg ggggagggag ataccccaa      120
gtgtagcaag atctgtgagc ctggctacag cccgacctac aaacaggaca agcactacgg     180
atacaattcc tacagcgtct ccaatagcga gaaggacatc atggccgaga tctacaaaaa     240
cggccccgtg gagggagctt tctctgtgta ttcggacttc ctgctctaca agtcaggagt     300
gtaccaacac gtcaccggag agatgatggg tgg                                  333


<210> 1348
<211> 185
<212> DNA
<213> Homo sapien

<400> 1348
aaaaaagctt gcagcaagaa aatgccagtg tgcaactggg tgactaaaga ccaaagaaaa      60
acagttaaaa gggacagctt acttgctctc tgtctcaggt ttaacttctc acctgaaatc     120
tctcatagcc ctaattaaac acaaacaaaa gtctcttcca tagataggct acttctcagc     180
ttcag                                                                 185


<210> 1349
<211> 171
<212> DNA
<213> Homo sapien

<400> 1349
gcggcagcga ggggctcgga gaggtgctcg gattctcgta gctgtgccgg gacttaacca      60
ccaccatgtc gagcaaaaga acaaagacca agaccaagaa gcgccctcag cgtgcaacat     120
ccaatgtgtt tgctatgttt gaccagtcac agattcagga gttcaaagag g              171


<210> 1350
<211> 400
```

```
<212> DNA
<213> Homo sapien

<400> 1350
ttgtcatatc atatctatgt cacctgtgta ttctgagatt acacacatac ctgccaatat     60
acctgggaaa ggttatttta tcacagttac acttgagttc ttggcaggca ggactgagga    120
agagtaattt gaaagaagtt ttacatccta tttagaagaa atcactagta tttccttaaa    180
taacaggtta caatagaaag atactgcctg gaagttatcc tttcactttg gttcattttt    240
agtttttctt tatgatttac atagctgttt aattcatttg cttatagtac aatcctgcca    300
taaagtatta aagcacaaga tacctattat tccttcaaca tctgcatttt tcaagtttta    360
tactctacat ccacagtacg tcagcagttc ttgaatgttt                          400


<210> 1351
<211> 309
<212> DNA
<213> Homo sapien

<400> 1351
ccaggaaagg gcagtcctga gggagaagac aggattcagg gcagtgctcc gaagctgtgt     60
gctcacctgg ttggctcatc aaacctggca accctgtggc ctgtctgccg gagctgactg    120
gatccactca tcaattcttc gtccccacta ctaagactgg gcatgttttg ctggtgtggt    180
ctctgcactt caggaatggt cacaacaggg ggtagccctc aaaagcactc ctttttctat    240
acctcttctc aaggccatgt aagttgccca tctctacctg gctgtggaca aaaggttatc    300
tgctcttgg                                                             309


<210> 1352
<211> 268
<212> DNA
<213> Homo sapien

<400> 1352
ccacttcatc tgtgtgggaa cgtggtcagg ccgggtgctg gtgtttgaca tcccagcaaa     60
gggtcccaac attgtactga gcgaggagct ggctgggcac cagatgccaa tcacagacat    120
tgccaccgag cctgcccagg acaggattg tgtggctgac atggtgacgg cagatgactc     180
aggcttgctg tgtgtctggc ggtcagggcc agaattcaca ttattgaccc gcattccagg    240
atttggagtt ccgtgcccct ctgtgcag                                       268


<210> 1353
<211> 620
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(620)
<223> n = A,T,C or G

<400> 1353
cctgagtaat tattccatca tagacaaact tgtgaatata gtggatgacc ttgtggagtg     60
cgtgaaagaa aactcatcta aggatctaaa aaaatcattc aagagcccag agcccaggct    120
ctttactcct gaagaattct ttagaatttt taatagatcc attgatgcct tcaaggactt    180
tgtagtggca tctgaaacta gtgattgtgt ggtttcttca acattaagtc ctgagaaaga    240
ttccagagtc agtgtcacaa aaccatttat gttacccct gttgcagcca gctcccttag    300
gaatgacagc agtagcagta ataggaaggc caaaaatctc cctggagact ccagcctaca    360
```

```
ctgggcagcc atggcattgc cagcattgtt ttctcttata attggctttg cttttggagc    420
cttatactgg aagaagagac agccaagtct tacaagggca gttgaaaata tacaaattaa    480
tgaagaggat aatgagataa gtatgttgca agagaaagag agagagtttc aagaagtgta    540
attgnggctt gtatcaacac tgttactttc gtacattggc tgggaacagt catgtttgct    600
ttcataaatg aagcagcttt                                                 620
```

```
<210> 1354
<211> 398
<212> DNA
<213> Homo sapien
```

```
<400> 1354
aaaggattat ttttatgcaa agtattctgt ttcagcaagt gcaaatttta ttctaagttt     60
cagagctcta tatttaattt aggtcaaatg ctttccaaaa agtaatctaa taaatccatt    120
ctagaaaaat atatctaaag tattgcttta gaatagttgt tccactttct gctgcagtat    180
tgctttgcca tcttctgctc tcagcaaagc tgatagtcta tgtcaattaa ataccctatg    240
ttatgtaaat agttatttta tcctgtggtg catgtttggg caaatatata tatagcctga    300
taaacaactt ctattaaatc aaatatgtac cacagtgtat gtgtcttttg caagcttcca    360
acagggatgt atcctgtatc attcattaaa catagttt                            398
```

```
<210> 1355
<211> 371
<212> DNA
<213> Homo sapien
```

```
<400> 1355
ctggytcctc agtgggaact gagtcattac ctgctaaagg gtagaagagg agagagagag     60
gccagagcct ggggatgggg cagaaggtgc agcaggaagg aaggttagag tgagaaaaat    120
ttccaaataa ggggtgatgt gtgagtgctc agagggtgac tgaggacatc tccagcattt    180
ccattgagga gggaggaagg aggggccctt gggttctggg gcagatgccg gcagggtctg    240
gatgagatgc ccccaacctc aaccctggtc ctctgaaaac acttcaccca gtcacactga    300
ggagccctc caggcccagg ggccctcca ggtaggcgta tctcagctcc tctctggaag     360
gaccccaca g                                                          371
```

```
<210> 1356
<211> 338
<212> DNA
<213> Homo sapien
```

```
<400> 1356
gcggcgcggg cggcggtaaa atgtcggttc caggacctta ccaggcggcc actgggcctt     60
cctcagcacc atccgcacct ccatcctatg aagagacagt ggctgttaac agttattacc    120
ccacacctcc agctcccatg cctgggccaa ctacggggct tgtgacgggg cctgatggga    180
agggcatgaa tcctccttcg tattataccc agccagcgcc catccccaat aacaatccaa    240
ttaccgtgca gacggtctac gtgcagcacc ccatcacctt tttggaccgc cctatccaaa    300
tgtgttgtcc ttcctgcaac aagatgatcg tgagtcag                            338
```

```
<210> 1357
<211> 159
<212> DNA
<213> Homo sapien
```

```
<400> 1357
ctgggctgct gcctctggag tacttccccg cagctcctca ttgctcacat agtaggcaat     60
```

```
ggcgttgctc tcaaacacac agaatccatc atcaccctca aatgctggga ccttgccggc    120
aggaaatttg cggagaaatt caggggtgcg gttggtttg                           159


<210> 1358
<211> 306
<212> DNA
<213> Homo sapien

<400> 1358
cctgtcagag tggcactggt agaagttcca ggaaccctga actgtaaggg ttcttcatca     60
gtgccaacag gatgacatga aatgatgtac tcagaagtgt cctggaatgg ggcccatgag    120
atggttgtct gagagagagc ttcttgtcct gtctttttcc ttccaatcag gggctcgctc    180
ttctgattat tcttcagggc aatgacataa attgtatatt cggttcccgg ttccaggcca    240
gtaatagtag cctctgtgac accagggcgg ggccgaggga ccacttctct gggaggagac    300
ccaggc                                                              306


<210> 1359
<211> 382
<212> DNA
<213> Homo sapien

<400> 1359
agagggagtc cagcccccaa gccttgtgag gcactgttar gcagataggg aaaagagggg     60
tccttagatc actggttcaa ggagggatct ggtaggggca gcatttcttc tgggctggaa    120
acagaatggg ggtttcaaga tggcagaacc attccattat tggagctata agcccctaga    180
attgctccat ggcctatctc ggtttccctt ggatctcatc tgctcctgaa ctgcacctgt    240
catggcaagt ccatctccgg cccccatctc ccctgagcca atgtgagtca ggtgaacaaa    300
attcattggt tccccaatca tggtccggtc aatccgtctt ctcttcttct ttcttctcca    360
ccatccagac gttcagctac ag                                            382


<210> 1360
<211> 365
<212> DNA
<213> Homo sapien

<400> 1360
aaaaaacctt tcaaaataaa acttagtaaa atctagaact gkttcttggc ctacttgaga     60
ggaacttcca tattttcaca gccatctccg aaagcagcag ttgctgtaaa ttaactgaga    120
cttggaaatg gtgcagactg tcttggtaga gctgttctta tagcacaatt ttatctggaa    180
aataaacttg taaatgcgtg ctgtatatta atacatgtgt gcccatattt attttttatta    240
tctcctgcca gtctttgctc aatgggagat gacagaccaa cttctcaacg tgatttcccc    300
atttcattga atgacattta tatgccactt atgaaaaaaa tactgctgtg aaagaaatgt    360
acttt                                                               365


<210> 1361
<211> 502
<212> DNA
<213> Homo sapien

<400> 1361
gaggtatgga aaaatatcaa caaggaaata ttagatttga actgctgctt cgttagcaca     60
cagcacattc tccaggatat accatatgtt aggacacaaa acgggtctca ataaattttt    120
aaaagtcaaa atcttatcaa gtatcttctc agaccacaat ggaataaaac tggaaatcaa    180
taacaagagg aacttctgaa attgaacaga tacacggaaa tcaaactaca tgttcctgaa    240
```

```
tgaccactgt gtctatgaag aaattgattt taaaaattta aaaattcttt gaaacaaatg      300
aaaatagaaa cacagcatac aaaaatgtat agggtacaac aaaagaagtg ctatgaggga      360
catttatttc aataaacacc cacatcaata aggtagaaag tttttaaaca aataacctaa      420
taaacgcatc tcaaggaact agaaaagcaa gaacaaatca aacctaaaat tagaaggaaa      480
taaatagtaa agatcagagc ag                                              502
```

<210> 1362
<211> 545
<212> DNA
<213> Homo sapien

<400> 1362
```
ctgattggat gtctaggaat gactgaaaga aaccaaaaca gcctgtccac tgctgctgtg       60
ggatggagga ggcgtaagca gaaacactaa cagtatactg acctcttagc agaaccgctt      120
ccattctgga gatcacggct gctaaatcca gcatccccac ttcattttac ccccagcata      180
ttgttctgta gtcttttctt gaaacatctt gattgctttt cctcggcagc tttcaaaaaa      240
ccaaataata atagttatcc gtcttctact tcatggaaga ttgtttttggt gccctgaccc      300
tctgaagtgc ccagttcctg ccatctgaaa cctcggcctg atctgatctc atgttggaat      360
ctgcctgtct ttcacacagg gctggtcttg gtcctttaca tgccagtttt gcttgtgaat      420
tcttgctttt ttcctctcat cagccttaag tttaggcgtt tgttgttctc cagtgatgta      480
gacagttccc ttcacaagtc acagttcttc ccataaatga ggcccgctga cctctgcggg      540
acttt                                                                 545
```

<210> 1363
<211> 286
<212> DNA
<213> Homo sapien

<400> 1363
```
gggagatgca ggatgtagac ctcgctgagg tgaagccttt ggtggagaaa ggggagacca       60
tcaccggcct cctgcaagag tttgatgtcc aggagcagga catcgagact ttacatggct      120
ctgttcacgt cacgctgtgt gggactccca agggaaaccg gcctgtcatc ctcacctacc      180
atgacatcgg catgaaccac aaaacctgct acaaccccct cttcaactac gaggacatgc      240
aggagatcac ccagcacttt gccgtctgcc acgtggacgc ccctgg                    286
```

<210> 1364
<211> 503
<212> DNA
<213> Homo sapien

<400> 1364
```
ccatcaggat catgaaaaca aactttggtg aatgtgagca actgcgccag acaggacaca       60
ggttacaggg cctgacgtca ctaacggtaa ctgacaatct tggaatggac cctactgctg      120
atgtttcaaa aggacacaga ggtgaactgg tcacttctaa ttaagaagag ccagtggggt      180
gggggaagct gaaaaccaaa aatccacgta gacatacgtg gcagtgtgaa cgtctgtcct      240
cccttccctt ctcctcactt cctctcctcc tcctcactca ggctggtatt ctcctggtgt      300
gcggatgtca gcttgccctg cagaagggct gccagttttt tagatgtctt tttgagaaac      360
gagctgcccg gatgggcact gttcacgtgc aggtacaggt cctcctgggt ggggcccgtg      420
tagccgcaat cctcgcagac gtagagcttg tcccgccgct gcttataggc atactgctgc      480
tgcaccccat ggattttctt cag                                             503
```

<210> 1365
<211> 245
<212> DNA

<213> Homo sapien

<400> 1365
ctgggcggct ccacgctcat ccagtgggcc taggttctga ctgaccagcg aacaaaaact   60
gtgacagaga tctaggattt cattcaggca gtgaaacacc tacccgggaa acagagttgg   120
cattaggaaa ggaaggaagg tacatccatg aagttaaagt gttaggagaa cagtctgatt   180
aatagctgat ctaattaata gctgacctcc caaatctgac aggatagaca ctgccacgtg   240
caagg   245

<210> 1366
<211> 131
<212> DNA
<213> Homo sapien

<400> 1366
aaaatcccca taaatctttt ctgtcctgag gtagttgcaa aataaatcat aacttggata   60
tcaactagag ctgaggcttt gactttttac tcattaaaac tagttgttac aggaactacc   120
tttagatatt t   131

<210> 1367
<211> 430
<212> DNA
<213> Homo sapien

<400> 1367
ctgtgcagtt atatgaccat aaaggaaatg aaccattaaa aatggatcta cagccatata   60
ttctgccgtt actcagaggc ttaatgattt attttccccc tccagccctg cctttaccag   120
gttaaatgac agaagacctt ctattgtacc tattgttcaa aaaatattac tgttctgtgg   180
aacctgggag agtccaattg ataagagaaa ctgaatcata ctgatgaggt gaaggatagg   240
tctgccggtg tggggcaggg cactctttct cagcagccaa gataacttat cacacacgaa   300
gcagagagaa tgcacccgat gaaaatctct ctgaactgtg ttccttgaag gatctcttaa   360
aaaaaaaaaa tctgaaacat catccattga acaaatgaaa ggcttatacc tttaccatga   420
agaaacattt   430

<210> 1368
<211> 294
<212> DNA
<213> Homo sapien

<400> 1368
ctgggcggat agcaccgggc atattttgga atggatgagg tctggcaccc tgagcagtcc   60
agcgaggact tggtcttagt tgagcaattt ggctaggagg atagtatgca gcacggttct   120
gagtctgtgg gatagctgcc atgaagtaac ctgaaggagg tgctggctgg taggggttga   180
ttacagggtt gggaacagct cgtacacttg ccattctctg catatactgg ttagtgaggt   240
gagcctggcg ctcttctttg cgctgagcta aagctacata caatggcttt gtgg   294

<210> 1369
<211> 429
<212> DNA
<213> Homo sapien

<400> 1369
ctgaaggcaa tggggggactg aggaaggagg cagcagaagt aggagaggag caagaatcca   60
gaagggaaat gagaacgaca aaactgaagt gcacttcaac atcctgcagc caaagggta   120

```
aaaaggagaa agaagtgcag accagtcaca taaatgccac agtgacatgc acaaaaacgt    180
gaggggcaca ctccagggac agagtctgac aacatgacaa gctacatggc atcaaactct    240
ttcatgtgac aggcagcttt tcacatgtgc atcttaagac tggaacttgc tatagataaa    300
ccttaagtag ttaataaaag caaaagtcat cctctattca ctgtttgctg ccatgttcca    360
ggcatagtac ttggcacttt ttattttatt tcacttgatc agctcagaaa gtcctccaaa    420
tgagtattt                                                           429
```

<210> 1370
<211> 540
<212> DNA
<213> Homo sapien

```
<400> 1370
ccactcccag gatgctgggt ctcgcttgct ggctgggacc ccggagccgt cagtccacgc     60
actcccggat gcactcaaca acctaaggac gcaggagggt tccggggatg gtccgagctc    120
gtccgtagat tggaatcgcc ctgaagatgt agaccctcaa gggatttatg tcatatctgc    180
tccttccatc tacgctcggg aggtagcgac gccccttttc cccccgctac acactgggcg    240
cgctgggcag aggcagcacc tgctttttcc ctacccttcc tcgattctgt ccgtgaaatg    300
aattgggtag agtctctgga aggttttaag cccattttca gttctaactt actttcatcc    360
tattttgcat ccctcttatc gttttgagct acctgccatc ttctctttga aaaacctatg    420
ggcttgagga ggtcacgatg ccgactccgc cagagctttt ccactgattg tactcagcgg    480
ggaggcaggg gaggcagagg ggcagcctct ctaatgcttc ctactcattt tgtttctagg    540
```

<210> 1371
<211> 142
<212> DNA
<213> Homo sapien

```
<400> 1371
ttaaaatggt agcacaagag tctggcaagt tggtactgca gagaaaaggg gttaattgag     60
gcttgtttgg agtcgggatt cccctttccc aaacatgcgt ctcgccactt ggacagcagc    120
catttgtact cgtatacttt tt                                             142
```

<210> 1372
<211> 377
<212> DNA
<213> Homo sapien

```
<400> 1372
ccaccatctg tgcaagtagc caaaaccact cctttaaca cgagggagcc tgtgatgctg     60
gcctgctatg tgtggggctt ctatccagca gaagtgacta tcacgtggag gaagaacggg    120
aagcttgtca tgcctcacag cagtgcgcac aagactgccc agcccaatgg agactggaca    180
taccagaccc tctcccattt agccttaacc ccctcttacg gggacactta cacctgtgtg    240
gtagagcaca ttgggggctcc tgagcccatc cttcgggact ggacacctgg gctgtccccc    300
atgcagaccc tgaaggtttc tgtgtctgca gtgactctgg gcctgggcct catcatcttc    360
tctcttggtg tgatcag                                                   377
```

<210> 1373
<211> 504
<212> DNA
<213> Homo sapien

```
<400> 1373
ccatgctaag tttgggaacc gctggtgatg ggacatggat gcttgcaacc gaccgtgggc     60
```

```
ggatgtggtt gaccagatgg cagaggacga caccatccat gagggctgcc cccaggtctt      120
cgtgcagact gaccttcaat ctcatctcaa tgctctcacg aagttgttcc accagctctt      180
tctcttctct catctgctcc attttcctcc ggattgtaaa ctgcgggtct atagattcca      240
aatttctctg aggtcttaga aacacagact cagaaatcaa atgaggatgt ctcagaaagg      300
agtcactttt ccagaggcag gctgcccctt aactcagccg agcagcagga accactgggg      360
ccaaagctat tttatcttcc ttaggtaaaa aaaaatcaat agaatatttc ttccccgctt      420
acatgctccc accactgatg aacgcgatct tcagcaagaa gaactttgag tccctctccg      480
aagccttcag cgtggcctct gcag                                            504
```

```
<210> 1374
<211> 201
<212> DNA
<213> Homo sapien
```

```
<400> 1374
cctccgtaag atgcttgaca attttgactg ttttggagac aaactgtcag atgagtccat       60
cttcagtgct tttttgtcag ttgtgggcaa gctgcgacgt ggggccaagc ctgagggcaa      120
ggctataata gatgaatttg agcagaagct tcgggcctgt cataccagag gtttggatgg      180
aatcaaggag cttgagattg g                                               201
```

```
<210> 1375
<211> 295
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(295)
<223> n = A,T,C or G
```

```
<400> 1375
ctgtgaggct gnttccaagg aggaaaacaa ggaaaaaaat cgatatgtaa acatcttgcc       60
ttatgaccac tctagagtcc acctgacacc ggttgaaggg gttccagatt ctgattacat      120
caatgcttca ttcatcaacg ctaccaaga aaagaacaaa ttcattgctg cacaaggacc      180
aaaagaagaa acggtgaatg atttctggcg gatgatctgg gaacaaaaca cagccaccat      240
cgtcatggtt accaacctga aggagagaaa ggagtgcaag tgcgcccagt actgg          295
```

```
<210> 1376
<211> 318
<212> DNA
<213> Homo sapien
```

```
<400> 1376
ccagcgctac tgtactggcc cagggcagag ttcatgtatc tcgtcttgac cacgtctaca       60
ggggaggcga tgacagtggt gcagaagcct gccccaaagg cagaagtgaa gtggcaaggg      120
aggtcatctg tcatgaggtt ggctttcagg agggcatcct tgatgaggtc ataggtcacc      180
agctcagcac agttgacaat ggcattacga gcaacattgg gggaggtccc tttccagagg      240
ccccggaacc cttcctctcg ggcaatggtc ttgtaggcat tgacggtgct ttggtatctc      300
cgaccacctc cagcccgg                                                  318
```

```
<210> 1377
<211> 143
<212> DNA
<213> Homo sapien
```

<400> 1377
gtggattccg ytccgggcac cgatctcgcc aagatcctga gtgacatgcg aagccaatat   60
gaggtcatgg ccgagcagaa ccggaaggat gctgaagcct ggttcaccag ccggactgaa   120
gaattgaacc gggaggtcgc tgg   143

<210> 1378
<211> 98
<212> DNA
<213> Homo sapien

<400> 1378
aaatattggt aataggtcgg caacagcaac tatagaagta caactcaata gatggcatta   60
aaacatattg tagtgtggat atatattttt tctttttt   98

<210> 1379
<211> 330
<212> DNA
<213> Homo sapien

<400> 1379
aaagatgttc acgttacgct ggaccaaatt aagacggctt tctccctctt gctgacgtgc   60
cccagccgtg ataatgacca gcttggagtt tgcagttaca ttatagtctt tgccagagac   120
aatctttggt gttctaagga aaaggctgcc atgttggaga tccatcatct ctcccttcaa   180
tttgtcttcg acgacatcaa caagagcaag ttcatctgcc aagtccttca ttaagatact   240
gatggcacag gccatgccaa cagcaccaac cccaacaact gtaatcttat tctggggggt   300
ctgttcttcc tttagaagat tataaatcag   330

<210> 1380
<211> 269
<212> DNA
<213> Homo sapien

<400> 1380
ccactcctgg aaacccactg atagatgagt ttcccccatt cttctggcct ccgccacatg   60
atcaggaagc tggacttgct cttatccaac cactcgaggt tccctttctt cctcagttcc   120
tctaatacaa tctggatcga ctccacagga agctttcgct gtagcttgac gttgttgaag   180
agcgggctct cctgagcttc catcaccgtc atgctggact gtttgtgcag gcggcagaag   240
gacaggacca gcgagcacca ggcggccag   269

<210> 1381
<211> 232
<212> DNA
<213> Homo sapien

<400> 1381
aaaagagagg aaaggcagtg cagggctgga ggtcctggag ggtggcggcg ggtcgtccta   60
actagcaggc tgaaaggtgc tggaggggat gccttcactc agaggaagtt cacagccacc   120
tgccttggaa catgtacctg ttcatctttt cgtaatgtta gtattcattt tgctatcttc   180
ctgttgccat ttccaaacag tgtcagtatg tttttgttaa atacgaacat tt   232

<210> 1382
<211> 348
<212> DNA

```
<213> Homo sapien

<400> 1382
aaacgtgcta aagggaaagg aatctgacat tctgggtaaa tcttactcaa tctaaatcaa      60
agcttggttt tcaggaggag gaaggtgcga gcgcaggcag aggtgctgaa tactcctctt     120
ctgattcact tccatcatcc tctttctctt ggtcactgcc ctcagtgcta agccggtcaa     180
acccttttcg actgtagccc ttacggcttg caaagaaatt accaaggttt aagcctccac     240
ttcccttttcc tctaaatctt cccagtactc ttcctgaact cgtctcgagt ttgtgttcag    300
aatctccaaa ggcccttgat tttttccacc gaataaatat ggcaatgg                  348


<210> 1383
<211> 293
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(293)
<223> n = A,T,C or G

<400> 1383
ctgcttcaan acctcagctt catgggactt gcgtctttct tctgcagctt ctaatttctt      60
ctgaatttcc tccagggaaa gatccttctt ctttggaggg gaaaggggga attctggaac     120
agattctttt gaccgagggc tgagaatcag ctcaaaagcc tggcccgagg cacgcttctc     180
cagttctttc acctggatat cagaagaagc catggtgaat agaagacaag cgacaggcag     240
tgtattctgc acaatcaact gggataagga aagtcctgct cagtccgagc cgc            293


<210> 1384
<211> 573
<212> DNA
<213> Homo sapien

<400> 1384
ctgaagcaac ttgggattaa ttgcttgatt agcttcacga agcacagaga taaggtcgct      60
cacttgcttt atgttattag gtgtaaagaa agtgtatgct gtgcctgttt tggtactgcg     120
agcagttctt ccaattcgat gaatataatc ctctgaggag ttagggtagt cataattgat     180
gacaaatttc acatcttcca catctagccc tctggaggcc acatctgtag caatcagaat     240
aggagctttt ccatgtttga attcatttag aacccagtca cgctcttgtt gactcttgtc     300
accatggata cccatggcag gccacccatc tctcctcatt tttctggtaa gctcatcaca     360
tcttcttttg gtttccacaa aaacaatggt tttattctcc ttctcactca tgatctcttc     420
cattagacga ataagttttt catcctttttc tacgtcatga cacacatcca caatctgaag    480
aatgttgtgg tttgcactca gttcaagtgc accaatgttt atatgaatat agtctttcag     540
gaaatcttca gcaagctgtc ttacttcttt tgg                                  573


<210> 1385
<211> 150
<212> DNA
<213> Homo sapien

<400> 1385
ccaaggccgc tagggtcctt acccctcagg atcactcccc agcccttttcc tcaggaggta      60
ccgctctcca aggtgtgcta gcagtgggcc ctgcccaact tcaggcagaa cagggaggcc     120
cagagattac agatcccctc ctgtaagtgg                                      150
```

```
<210> 1386
<211> 159
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(159)
<223> n = A,T,C or G

<400> 1386
aaatgatgtt ttggttaaga gtggaccatg agaattagct gacagcatcc cctttctctc        60
tccctgcctt ggtgggaccc tccctgtgtg accttggtca agtcctcgaa cttttgtccc       120
gtatttaaga tggagctgnt ttacctactt cataagaca                               159


<210> 1387
<211> 735
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(735)
<223> n = A,T,C or G

<400> 1387
ggtgnaattc gcctttgaan ggccgccggg caggtccttt ntgtstgctg aaggcagatc        60
gcttgttcca caccagctac cactcccagg cagtgcatat ccgccctgtt tgcagaaatg       120
cacgctgtac tagcatctcc tgggagctga ggcagaccct gtcagttgta tttgatgcct       180
tcatcacggg gcagggaaag aaagactggt ccctcttccg gatgttctcc cgaaccctca       240
cggagccctg cccctggct tcagagagcc gagtctatgt ggacatcacc acctacaacc        300
aggacaacga gacattagag gtgcacccac ccccgaccac tacatatcag gacgtcatcc       360
taggcactcg gaagacctat gccatctatg acttgcttga caccgccatg atcaacaact       420
ctcgaaacct caacatccag ctcaagtgga agagacccc agagaatgag gcccccccag        480
tgccctttct gcatgcccag cggtacgtga gtggctatgg gctgcagaag ggggagctga       540
gcacactgct gtacaacacc cacccatacc gggccttccc ggtgctgctg ctggacaccg       600
taccctggta tctgcggctg tatgtgcaca ccctcaccat cacctccaag ggcaaggaga       660
acaaaccaag ttacatccac taccagcctg cccaggaccg gctgcaaccc cacctcctgg       720
agatgctgat tcaga                                                         735


<210> 1388
<211> 369
<212> DNA
<213> Homo sapien

<400> 1388
ctggggacag cctacagggg cctccagcct gtgccagacg aggaggtgat tgagctgtat        60
gggggtaccc agcacatccc actataccag atgagtggct tctatggcaa gggtccctcc       120
attaagcagt tcatggacat cttctcgcta ccggagatgg ctctgctgtc ctgtgtggtg       180
gactactttc tgggccacag cctggagttt gaccaagcac atctctacaa ggacgtgacg       240
gacgccatcc gagacgtgca tgtgaagggc ctcatgtacc agtggatcga gcaggacatg       300
gagaagtaca tcctgagagg ggatgagacg tttgctgtcc tgagccgcct ggtggcccat       360
gggaaacag                                                                369
```

<210> 1389
<211> 322
<212> DNA
<213> Homo sapien

<400> 1389
aaagatgttt ctggcatttt ctttttattt gtaaggtggt ggtaactatg gttattggct   60
agaaatcctg agttttcaac tgtatatatc tatagtttgt aaaaagaaca aaacaaccga   120
gacaaaccct tgatgctcct tgctcggcgt tgaggctgtg gggaagatgc cttttgggag   180
aggctgtagc tcagggcgtg cactgtgagg ctggacctgt tgactctgca gggggcatcc   240
atttagcttc aggttgtctt gtttctgtat atagtgacat agcattctgc cgccatctta   300
gctgtggaca aaggggggtc ag   322

<210> 1390
<211> 450
<212> DNA
<213> Homo sapien

<400> 1390
aaatattagw tgagacttta caggcacata actgttcaga tagaaacaaa cataacagac   60
taaaatactt tcaaaattaa agccatctag aaaatggaag taactgaaac tgtagccatt   120
acaattcttt ttctggtttt gagcaaaaat tttatctctc tggcaaaaca cctttgtctg   180
atcatttgag agacagggtt cttgtatact gtttcttcaa cgtaaacctc atttacaaaa   240
atagtgacat agcattatga ataaactatg aattggggac catggaaatg cactagaaca   300
aattttgtaa aaatatggca gatatggaag ttaaaaatag aatggatgca aggactgtac   360
taaaggtgtt tggtgtagtt acaatgttca ctttgcacaa ctatccctat agtctaggta   420
gccattgggt ttctcctcag cagtgtcaga   450

<210> 1391
<211> 304
<212> DNA
<213> Homo sapien

<400> 1391
aaaaaatcat aaatggggtt tcataatcca aagttgaaac atttattctt catagcttca   60
gaatttaaca accaattgta gaccatgctt tccaaatcca gtcttctttg ctattttttca   120
aaacttctga gatctagtat taaactgctc cattctaaat gtatagtttt agataagtat   180
tgtacacttg ttgataaggg ttttctgaaa gcagtctatc aaatataaag aatggtttct   240
atctaagaat cagcagtgag ggaagaaata ttaaacacct atcaagaaat caattattca   300
tttt   304

<210> 1392
<211> 140
<212> DNA
<213> Homo sapien

<400> 1392
ctggaagaag aactgagaca gcagaaagaa gcagcttgtt tcaaggctcg tccaaacacc   60
gtcatctctc aggagcccctt tgttcccaag aaagagaaga aatcagttgc tgagggcctt   120
tctggttctc tagttcagga   140

<210> 1393
<211> 166
<212> DNA

<213> Homo sapien

<400> 1393
```
aaaactttgt ttttcttaaa agcttacagt gtttggctaa ttctcctccc cttttttacaa          60
gacgggggcc ggagggtgga cactggtggc aggttaaggg atactgtcac tttaagaagc         120
ctgcagattg aagtgtaaac atggagaaat tagggggctga ttttt                         166
```

<210> 1394
<211> 543
<212> DNA
<213> Homo sapien

<400> 1394
```
gcagaggctg tggtacaaca tggtccttgg tgaagacctg caccccctgga acctcccacc          60
atcatcacaa ctgtagtctc atttgcagtg gagaaaagaa cccgacgtcc cacagccaga         120
tatacaccca gctccatgcc agcccttcat gtttaccttt tgctttgtta attacatgtc         180
agactcctag agggcctcca gactaatagg aagcatttct gtaaccaacc tgccacccac         240
tgattcagaa atggaaatca cattccacaa tctatggctt ctaccagcta gcccaggaaa         300
tacttgaaat cagcattcca attagtgttg agtctcttga ttgtgtcatt taccaattaa         360
ataactgaga cctaagtctg ggaacagagc cacgaatctg cctttgagat gctggcagat         420
ctcaaggcca tcaattattg gggggaggggag ggacaaacac tcccaatcat ccaccagtca        480
gactgaatgt gtagctggcg aggaattact tccacttctg gcccagcaca agccctgctt         540
tgg                                                                        543
```

<210> 1395
<211> 364
<212> DNA
<213> Homo sapien

<400> 1395
```
cctatcatca gtggggttgt attcaccatc atccagggta ccatcttcat acaaggtact          60
agctatgacc aaccgaaact tgtcacccaa gtctacaggg taaatttgaa tgtttacatc         120
taagattaga tccatcttga aagattcact ctcacaatgc agtcgagaca ctcggtcaaa         180
cttcttgccc tccgggtcaa tatccttcac atcgaaaata tcctcaaaca ggatgcccgc         240
catcgcgagg gggccacgag agcagcagaa ggggtgagag cgcgaccaca gttgggagta         300
cgtgcacccc ctagcgtgga caagaccgga gagaaccaaa agcacctcct gaaagcgcgg         360
cggc                                                                       364
```

<210> 1396
<211> 422
<212> DNA
<213> Homo sapien

<400> 1396
```
gctgctgctg ctattgtgtg gatgccgcgc gtgtcttctc ttctttccag agatggctaa          60
caggggcccg agctatggct taagccgaga ggtgcaggag aagatcgagc agaagtatga         120
tgcggacctg gagaacaagc tggtggactg gatcatcctg cagtgcgccg aggacataga         180
gcacccgccc cccggcaggg cccattttca gaaatggtta atggacggga cggtcctgtg         240
caagctgata aatagtttat acccaccagg acaagagccc atacccaaga tctcagagtc         300
aaagatggct tttaagcaga tggagcaaat ctcccagttc ctaaaagctg cggagaccta         360
tggtgtcaga accaccgaca tctttcagac ggtggatcta tgggaaggga aggacatggc         420
ag                                                                         422
```

<210> 1397

<211> 653
<212> DNA
<213> Homo sapien

<400> 1397
ctgacctgct atcccacccc aaatttcagc ctgaggtata tttcagtgaa ggcaggtagc   60
tgtgcttctc agagcagaga agcagtttta agagcaaaaa ggtagaggaa atctagaaaa   120
gaaccgtctt gatacagatt tatcccatgg tgtgaaggga gggcaaagaa cccagtggca   180
cttcgcttat ccagcaattt ctgtcactgt ggtgaccaac ttctgcccgt tccatagggt   240
cttgaactgc tcaggaactg ggaattcatt aaagtcaccg ccttctgtag gaatgaggac   300
attcatctcg gaagatttgg cactgactat ttcacaatcc agggaattct tgctcaggta   360
agcatggcag ccatctgttt tgttgatgga tatggttggc actttaccca ttacctgaac   420
tttgacatcc ttactgttga ttatctccac aatgcccacc acgtcatcga ataccaggcc   480
aagtttctta cagttatcta ctgtaatgga gttaattttg cccttgattt gcaatgtcgt   540
gttgacacac ttgtatatgt aagccacctg tttcagctct gtgtcctcaa tcaccagggt   600
ggaaacattt tcctgatttt ccctctccct tcttgccttc agttcaagta cag   653

<210> 1398
<211> 261
<212> DNA
<213> Homo sapien

<400> 1398
aaaattataa ctactcattc tttctttagc cttagataat ttgagcagaa gccacaacaa   60
gcaaaccaca ataaatttag aattggcaga aatccacatt aactcctctt cccaagtttc   120
cacactacta ccatttacag ttgtaggttt gtaatgtata attatgtaat gcasaaacta   180
gctttgactt gtgtracgat gcactgtcaa aggaagcaaa gtaagaattg aaattccaca   240
ttcccagaat ttaacactca g   261

<210> 1399
<211> 195
<212> DNA
<213> Homo sapien

<400> 1399
ctgattttat ttccttctca aaaaaagtta tttacagaag gtatatatca acaatctgac   60
aggcagtgaa cttgacatga ttagctggca tgattttttc ttttttttcc cccaaacatt   120
gttttttgtgg ccttgaattt taagacaaat attctacacg gcatattgca caggatggat   180
ggcaaaaaaa agttt   195

<210> 1400
<211> 120
<212> DNA
<213> Homo sapien

<400> 1400
ctgcctccaa ccctttgggt ctccaccacc caagtttcct gtagggtccg ccgggtccag   60
gatcacaggc ctgggtttcg tgagctgcct tctcaggtac ttttcaataa tggggttttt   120

<210> 1401
<211> 284
<212> DNA
<213> Homo sapien

<400> 1401
```
ctgtagccaa aaagatgctg gggcagattg tggacaagta gaagcacctc cttcccctct        60
gcgacattga acggcgtgga ttcaatagtg agcttggcag tggtgggcgg gttccagaag       120
gttagaagtg aggctgtgag caggagcctc tgccagggga catgcaatct gcagggaggg       180
gctgaggggg gtcccatggt ctctgctgtc ttctctgtcc acctctttgt agaggagctt       240
gagctccagg aatgctctgg tcagggctgc tgtgactgtt ggcc                        284
```

<210> 1402
<211> 198
<212> DNA
<213> Homo sapien

<400> 1402
```
ccaggtttct gctggtacca ggctaagtag ctggtgctgg cgggaacact gtgactggcc        60
ctgcaggaga gggtggctct ttcccccgga gacagagaca gcgtgtctgg agactgtgtc       120
acttcaagct ctgcgatgcc atctgggagc cagagtagca ggaggaagag aagctgcgct       180
ggggtttcca tggttccc                                                     198
```

<210> 1403
<211> 441
<212> DNA
<213> Homo sapien

<400> 1403
```
aaactcaaaa ttgacaaatt aactagcttg ctttttgtca tttggaagac taccattatt        60
caaatttatt atgtaataca ctcatccaga taatgaaaca tctgcgaaaa aaagtgtggg       120
aatcacctca tctgtgcata aaatggctat tatacatgaa tgcagacgtt tgaagttaga       180
aaggaatata actcaaatag caaaaggtcc taattacaga gtttacaaat aagcagtttt       240
atttttcaaaa gtacatagta agtccagact gggctattgc caaagaacta atctttagtc      300
tacttcaaca tgttacatgg tattcctgac tctacagact atcagcatct gtggaggtta       360
gctcctaaag gtcccaaaga acaggaaaca tgcaggaata aaggactcct catgaagagc       420
aggtgggagc gagtgggcag g                                                 441
```

<210> 1404
<211> 243
<212> DNA
<213> Homo sapien

<400> 1404
```
tgaaggggtt cttggaagac ctggcacctc cagagcgcag cagcctaatt caggattggg        60
aaacatctgg gcttgtttac ctggactata ttagagtcat tgaaatgctc cgccatatac       120
agcaggtgga ttgctcaggt aatgacctgg agcagttaca catcaaagtg acttcactgt       180
gcagtcggat agagcagatt cagtgttaca gtgctaaaga tcgcctggct cagtcagaca       240
tgg                                                                     243
```

<210> 1405
<211> 168
<212> DNA
<213> Homo sapien

<400> 1405
```
aaaccactgg atctatctaa atgccgattt gagttcgcga cactatgtac tgcgtttttc        60
attcttgtat ttgactattt aatcctttct acttgtcgct aaatataatt gttttagtct       120
tatggcatga tgatagcata tgtgttcagg tttatagctg ttgtgtttt                   168
```

<210> 1406
<211> 486
<212> DNA
<213> Homo sapien

<400> 1406
```
ctggacatac agaaattgtt gaatttttgt tgcaacttgg agtgccagtg aatgataaag        60
acgatgcagg ttggtctcct cttcatattg cggcttctgc tggccgggat gagattgtaa       120
aagcccttct gggaaaaggt gctcaagtga atgctgtcaa tcaaaatggc tgtactccct       180
tacattatgc agcttcgaaa aacaggcatg agatcgctgt catgttactg gaaggcgggg       240
ctaatccaga tgctaaggac cattatgagg ctacagcaat gcaccgggca gcagccaagg       300
gtaacttgaa gatgattcat atccttctgt actacaaagc atccacaaac atccaagaca       360
ctgagggtaa cactcctcta cacttagcct gtgatgagga gagagtggaa gaagcaaaac       420
tgctggtgtc ccaaggagca agtatttaca ttgagaataa agaagaaaag acacccctgc       480
aagtgg                                                                  486
```

<210> 1407
<211> 560
<212> DNA
<213> Homo sapien

<400> 1407
```
aaatatatgc ttttctagaa tttgatgttt gaccatttat gacttaatta ccagagagcc        60
agtaaattag gacagtgttt caacaagcct aggctatctc gtaagttgaa aaatatccca       120
ctatagttgc ttcatgagta tgaagtaaga tggcctctga tttacactgg ttcaatttac       180
aaattttcaa ctttatgata ggtttatcag ggtactaaat gcattcaac ttgatagttt        240
caacttatga taggtttacc aggatgtagt cccactgttg aggagcatct atttaggagt       300
taattacttt agtaataagt ggaaagtaag ataccttgag taatgtttgc ctataaaatt       360
gtcagcgtat ttttacacta ttggctcaag aatgttataa tgctaaggga cataagttgg       420
caaccacttg gttttggaa ggactttcgg tattgtatta gaagtctgcc ctagctgtta        480
aatttctggg tatttatcct aaggaattaa ttaaagagtt aattgttcct ttcttcagtg       540
ggccattgtt ttagatattt                                                   560
```

<210> 1408
<211> 360
<212> DNA
<213> Homo sapien

<400> 1408
```
ctgcctagtt gtagttgaca gacaacttta taagctctag tcaaccctat tgactaagct        60
tctgaaccac tagcatagtt ctagggtcag gcggatgcct actgtgggca ggaaagtgat       120
gcatgcatgt gtgggagcag tgtcttaatg tctgaaatag tagccatgag ctacatgtgg       180
ctatggagca cttgaaatgt gggagtccaa attatcatgt gctgtgagtg taaaataata       240
tgtttctaag accgtgtgtg aaagaatata aaatatctca ttaaaaaatg tttatattga       300
gtacatgttg aaataatttt atatttgtga cacattgtgt taaataaaat attaaaattt       360
```

<210> 1409
<211> 208
<212> DNA
<213> Homo sapien

<400> 1409
```
ccagtccaac ctgctcctca ttattgtata aatgagcaga atcaatatgg cggaagccag        60
```

```
cttcaattgc caatttggtg gcctctaaag ctttactttt aggaacctct gcaggcgcat     120
aggtgccaaa tcccaggaca ggcatgaagt gaccatcatt cagcttcaca cactgatatt     180
tcgaatccat ttctgtcact agcctggc                                        208
```

```
<210> 1410
<211> 404
<212> DNA
<213> Homo sapien
```

```
<400> 1410
aaaaaaagga aaaagtttta ttacgaaact agtttgtata aaacagggtt atacatattt      60
ttgtaagttt gtaataaaac agtaagaaaa aaaaggcagt aatagaaatc tccaaaaggc     120
aacctatcaa aaccaactgg ctgccacttt gagtttggac agtagctgca taaactttgt     180
tcttcttgar cagtatttaa taacatcatt aatacattaa caacatttct ataaagtaag     240
acacattggt gctgaagtac aactggtggc ctcttgatct cacctatgag gagagttctt     300
tacamawcca catagggaaa attgcagttg taaggtgarc tacacatcta aaatatgcag     360
aggtaatagc attacatgtt aaagtatcaa gatatacaca tttt                     404
```

```
<210> 1411
<211> 623
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(623)
<223> n = A,T,C or G
```

```
<400> 1411
ccacttgttg agatatgggg agcctacact ccggagggst gtacctttag cactggccct      60
catctctgtt tcaaatccac gactcaacat cctggatacc ctaagcaaat tctctcatga     120
tgctgatcca gaagtttcct ataactccat ttttgccatg ggcatggtgg cagtggtac     180
caataatgcc cgtctggctg caatgctgcg ccagttagct caatatcatg ccaaggaccc     240
aaacaacctc ttcatggtgc gcttggcaca gggcctgaca catttaggga agggcaccct     300
taccctctgc ccctaccaca gcgaccggca gcttatgagc caggtggccg tggctggact     360
gctcactgtg cttgtctctt tcctggatgt tcgaaacatt attctaggca aatcacacta     420
tgtattgnat gggctggtgg ctgccatgca gccccgaatg ctggttacng tttgatgagg     480
agctgcggcc attgccagtg tctgtccgtg tgggccaggc agtggatgtg gtgggccagg     540
ctggcaagcc cgaaaactat cacagggttc cagacgcata caaccccagt gttggtgggc     600
ccacggggaa cgggcagaat tgg                                            623
```

```
<210> 1412
<211> 171
<212> DNA
<213> Homo sapien
```

```
<400> 1412
gcggcgctgg gggtgctgga gtccgacctg ccaagtgccg tgacacttct gaaaaatctc      60
caggagcaag tgatggctgt aactgcacaa gtgaaatcac tgacacaaaa agttcaagct     120
ggtgcctatc ctacagaaaa gggtctcagc ttcttggaag tgaaagacca g             171
```

```
<210> 1413
<211> 189
<212> DNA
```

<213> Homo sapien

<400> 1413
aaaagtcata agggttttat tttgtatcat caaaatattc tataaggtcc caaatactct   60
ttttcaaccc atgaacagta agaatttgtg aattctgata atgaaaaaag ttttcctcca   120
ggtatgtttg tttcacattc agtcctaaag ccttgagcta tgtgtacttc cctcacacag   180
gaacaccag   189

<210> 1414
<211> 564
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(564)
<223> n = A,T,C or G

<400> 1414
cctccccagc gcccaaaggt ctattacaag tacctataga cttttcacat ataagttcta   60
gtgggtacaa gctttttttt tttttttttt tttttttttt tctattgggk atttcattca   120
ttttgggggg ggaacaaatt ctacaaactg ctttaatatt gkcctttttt tctaatattc   180
acattaactt tttatgtaaa acataccaat gcttttaata aagcttacat aggaataaac   240
tattatagac ctgcatagat ataagtaccc atgtattaat ctacattaaa ataatggatt   300
ttattctgcg aaractccaa gttgctcctg ggkgctaagk gaagcactta gggaaatgtg   360
ttcagtcttt gaggtcatag gaacattara ttatatcaaa ggaaacctgg agccatcagc   420
taagtggccc ttctgtcctg tagatacata aaaactaatg ggctccgcta tgcggctcac   480
tttctgctat tagatactat gaggcactaa naaaaaacta ctgcctgcat catatctttc   540
ttcggtttga gataaagaga atgg   564

<210> 1415
<211> 231
<212> DNA
<213> Homo sapien

<400> 1415
ctgcgcttgg ataacaagta attcaacgca cgcacttaac agaaatgtta aactataaca   60
agcaccattt gaggattaac aggaacattt ttttgaagat ttcaaacgaa ctcgactttc   120
agtataattg tacctaaagt atttataaac agctcatcgg agcctctatt tgtcatagac   180
ttttgagttg attgttggga ccacataata ggaccatttt tttttgtctt t   231

<210> 1416
<211> 540
<212> DNA
<213> Homo sapien

<400> 1416
cttgatttag gatctgtggt gcagggcaat gtttcaaagt ttagtcacag cttaaaaaca   60
ttcagtgtga ctttaatatt ataaaatgat ttcccatgcc ataattyttc tgtctattaa   120
atgggacaag tgtaaagcat gcaaaagtta gagatctgtt atataacatt tgttttgtga   180
tttgaactcc taggaaaaat atgatttcat aaatgtaaaa tgcacagaaa tgcatgcaat   240
acttataaga cttaaaaatt gtgtttacag atggtttatt tgtgcatatt tttactactg   300
cttttcctaa atgcatactg tatataattc tgtgtatttg ataaatattt cttcctacat   360
tatattttta gaatatttca gaaatataca tttatgtctt tatattgtaa taaatatgta   420

```
catatctagg tatatgcttt ctctctgctg tgaaattatt tttagaatta taaattcaca      480
tgtcttgtca gatttcatct gtataccttc aaattctctg aaagtaaaaa taaaagttttt      540
```

<210> 1417
<211> 350
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(350)
<223> n = A,T,C or G

<400> 1417
```
ttnatcatct aactgtggga tctatttcat ttctggaaat aacacaactt agttctaggg       60
ctttcatgca catgaaatat aaaacagctt agttgttctg aaaacatgac aatggttaat      120
tttattcaag tcccaacact gagttcagag cacttctcca taggccccat taatctctcc      180
aggtttctgg gagtatcatt aaatccctcg gcatccttaa gaagcaggtg cttagcaaac      240
atccagtttc caaatgagag tcagaggggc ttgatcctga aagtgtagta ttttcctgcc      300
ttgtcctact ggtatagctt cttggaccta aaatctctct cctgctgagg                 350
```

<210> 1418
<211> 425
<212> DNA
<213> Homo sapien

<400> 1418
```
tgctaggcag ccttattttc ataacccawt tagggaaagg aaatttagga ttttcaaggc       60
tacattaatt tttcctccat caaatcttga tttgttcttg ataaaaatga gttctttttgg     120
ggaaattctt tctttagaca ccaacttggt ttttctcatc ttccacagaa taattgaacc      180
cctgacctct agatgttcaa aattccgctt caagcctctg tcagataaaa ttcaacagca      240
gcgattacta gacattgcca agaaggaaaa tgtcaaaatt agtgatgagg gaatagctta      300
tcttgttaaa gtgtcagaag gagacttaag aaaagccatt acatttcttc aaagcgctac      360
tcgattaaca ggtggaaagg agatcacaga gaaagtgatt acagacattg ccggggtaat      420
accag                                                                 425
```

<210> 1419
<211> 390
<212> DNA
<213> Homo sapien

<400> 1419
```
aaactcttgc tattgaattg agatgattaa aatggtgact taatccgtag ttattttgca       60
cccactgaaa ggaaagtgct ttccagaata atatgaagta tctaaaagtg tcaccttttc      120
ttgcctgatc aacaatttgg gcttcctgtt tgtacaaggg gccatttggc ataccttttca     180
cagcttttat caggccaagt taaaggctga ctacattttt tcatcatgag gaaagcagtt      240
gaaatgaggc atgagttact gtgcattggg attttagaac aattttcttg tgacagctct      300
ttttgtgaag ttaggttctt aaaagtgccc atgatggtca cttaaaatgt gcagtaatag      360
cactgccagg atcaagcatg aaaggctttt                                       390
```

<210> 1420
<211> 480
<212> DNA
<213> Homo sapien

```
<220>
<221> misc_feature
<222> (1)...(480)
<223> n = A,T,C or G

<400> 1420
ttgctgaaca atgacatcgt tttctccagg ggttgaaatc catgtccatg gctgacaacc      60
caacaaggct gggacccaaa ttcgtacaga gatgaggcag agtggagaga aacaactctg     120
gctgagccag agtctccagc cactacttct tattcctggg ctttagctct tcggctgcat     180
tacgcaggaa aatgtaattt tttttctggg gattataaaa ttcatgtccc tttgaccagt     240
cgtagctgga agcgtatgca aatatgtttc cattgygatt gaaacagcaa gctgasatgg     300
gctgayctaa ctgttccgaa gnttttagtt ttgktctggc atctttgycc cagaagctga     360
atctaccatc agatcccaca gttgcaaggg tgccatgaac aggatggaac gccgattcca     420
tttacccgca taaatgycct gaggagctga agtgttggtt ccattagatc gatgacattt     480

<210> 1421
<211> 453
<212> DNA
<213> Homo sapien

<400> 1421
aaactgattg aggtcacagt attttattat ttggggtcct caccacagga aacactgcga      60
tacaggggca aaagagatgg cagtgccaat taaattaata caacaaaatc aatgcagcac     120
caaccaagac tgccaggtct ggtgtcatgg gtatgccag agcccaggag ttcagaaggg      180
ccctaagcct gatttaatgc tctgctgttg atgtcttgaa attcttaaca atttttgaac     240
aaggggcctg cgtttcact tcgcactggg ccttgcaaat tacatagcga gtgctcataa     300
aagaactcag aaacgtggta cctctcttcc tggtggatac aaataaagaa atctggatcc     360
aaagttgaaa gttgctggcg atatcattca agtaggactc taaatagtgg attaagatga     420
gggtgggcct gggtgaagat tctttccagc ttt                                  453

<210> 1422
<211> 542
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(542)
<223> n = A,T,C or G

<400> 1422
tttncttgac cactatacgg cacaacctag gggstgtawa aaacctascr caatgcagaa      60
gggtgaagct tcatgacaat tggtctcggc aataatttgg gggatgtaac atcaacgaat     120
cagacaacaa aagcaaggga atacacatgg nactaaatca gtgtgnggaa aaatatccca     180
aacaggcaaa gcacaacatg gamtagatat atgcacattn atggaccctg naggcakkac     240
tcacaaacat actacctggg aagcamctgg acctttaagg gatgaggtag attcaacaaa     300
cagggcancg tatmttccac tgggatagca ttccagcctt aaaaataang aaatcttgaa     360
aagnactaca ataaggacaa atctcgaaca cattctgtta agtaaaacaa gacaagccaa     420
aaagggaaaa ctgtataatt acacctatgt aaaatattta gtcaaactca aagaaaccaa     480
gtgttgtagt ctcagcaggg caccaagatg naaacagtct ctcatagnct gagatangca     540
tc                                                                    542

<210> 1423
```

<211> 252
<212> DNA
<213> Homo sapien

<400> 1423
ttaatgccaa atggcaaagt tgcatccgtg gaaatggtta aatatcatca ctgtcgggat   60
gaacccctgc acgccctcta tgacaatgtg gagaaactct ttccaggttt tgagatagaa   120
actgtgaaga acaacctcag gatccttttt aataatgctg taaagaaacg tttgatgaca   180
gacagaagga ttggctgcct tttatcaggg ggcttggact ccagcttggt tgctgccact   240
ctgttgaagc ag   252

<210> 1424
<211> 273
<212> DNA
<213> Homo sapien

<400> 1424
tttccactct gcacattgta gagggaacac tctgtaggcc catgggtccc ttactagaga   60
ggttgagtga atttgccttc agttaacatg ggaccttctg tttagcttcc tcttgcttcc   120
caaagatttt aagcattttg taaatgtata aactcacctc tggtaacagt ggcccagacg   180
ctgctttgtg ctaaaagcat gggaaatgta aaggcagtct ttctctggga aatggatgct   240
attctattct gctgccccta cctgttcctg agg   273

<210> 1425
<211> 618
<212> DNA
<213> Homo sapien

<400> 1425
aaaaaccttg tatagcaaaa taacttaaaa ccctttgtga tatcatctta ccagtttatt   60
tggtaaaaac aaacagttat ttggtatttg tcagaattct tcagtgcctg ctattacagc   120
tattttccaa ttactaattt gattatactc actcaaggca gtgcaagatc ttgaagtact   180
ttttagcagt taagtaatat tgaattgtat tgaatagttt acatagttta ttctagtctt   240
tgaaaattac tgaacatgga caatgtgcat gtcattgaca tctgccttag aacttctggg   300
acaatcctga ttcgagagat tctatcccat tatttacata taccaaaaat actttgttaa   360
tttaatgtgt tggcttccca actcctgaac acgacacaat tttattatta gattttgtat   420
ggtgatttta ggctatgaaa acatgatcat tatatgtata tagatacatt tttatttgtt   480
acaaatgttt gagcagctca ctagcccacc cctcctctat tttgggtaag agaatttact   540
acctttttta actatgtagt tgagagcaac atgtattttg ttatttttag aatggtcagt   600
atattgctat aaaatttt   618

<210> 1426
<211> 565
<212> DNA
<213> Homo sapien

<400> 1426
gtggtagaaa gagatgacgg aagcacatta atggaaatag atggcgataa aggcaaacaa   60
ggcggtccca cctactacat agatactaat gctctgcgtg ttccgaggga gaatatggag   120
gccatttcac ctctaaaaaa tgggatggtt gaagactggg atagtttcca agctattttg   180
gatcatacct acaaaatgca tgtcaaatca gaagccagtc tccatcctgt tctcatgtca   240
gaggcaccgt ggaatactag agcaaagaga gagaaactga cagagttaat gtttgaacac   300
tacaacatcc ctgccttctt cctttgcaaa actgcagttt tgacagcatt tgctaatggt   360
cgttctactg ggctgatttt ggacagtgga gccactcata ccactgcaat tccagtccac   420

```
gatggctatg tccttcaaca aggcattgtg aaatcccctc ttgctggaga ctttattact    480
atgcagtgca gagaactctt ccaagaaatg aatattgaat tggttcctcc atatatgatt    540
gcatcaaaag aagctgttcg tgaag                                          565
```

<210> 1427
<211> 144
<212> DNA
<213> Homo sapien

<400> 1427
```
ccactagtta tttttatgta atcaattacg gggtcattag ttcatatccc atatatggag     60
ttccgcgtta cataacttac ggtaaatggc cgccaccgcg gtggagctcc agcttttgtt    120
ccctttagtg agggttaatt gcgc                                          144
```

<210> 1428
<211> 214
<212> DNA
<213> Homo sapien

<400> 1428
```
ccactagtta ttattatgta atcaattacg gggtcattag ttcatagccc atatatggag     60
ttccgcgtta cataacttac ggtaaatggc ccgcctggct gaccgcccaa cgaccccgc    120
ccattgacgt caataatgac gtatgttccc atagtaacgc cgccaccgcg gtggagctcc    180
agcttttgtt ccctttagtg agggttaatt gcgc                               214
```

<210> 1429
<211> 253
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(253)
<223> n = A,T,C or G

<400> 1429
```
ccactagtcc antttngtgg aattctgaag ccttaattgc ttatatccat gtttctagtg     60
aaatgagagg gtataacaaa aaagagaaca ggaggaaagc ttcgctgtgc ctgaggaaat    120
aatctagtca aggcagcaag tctggatagt gctatagaga tgagatacct gagcagttcc    180
agaggaagag gtggagatca gaggccagtt ttcagtgaac actgtaaaga aaagccagat    240
gatgtgtcct gga                                                      253
```

<210> 1430
<211> 232
<212> DNA
<213> Homo sapien

<400> 1430
```
aaattttact agtgttactt aatgtatatt ctaaaaagag aatgcagtaa ctaatgccct     60
aaatgtttga tctctgtttg tcattacttt ttcaaaatta ttttttttctg taaagtataa    120
tatataaaac ttcttgctta aattgaattt ctatattagt ggttaattgc agtttattaa    180
agggatcatt atcagtaatt tcatagcaac tgttctagtg ttttgtgttt tt            232
```

<210> 1431

<211> 734
<212> DNA
<213> Homo sapien

<400> 1431
cattatacaa cactatattg ccaggtcaaa gagggcaggg acgtaaatgt acactaaaat   60
gcmaatgtat cccaaagaga taaaacaaat tccatttaca gcatgaaggt ttacaaatgt   120
acacctgtac aaccaaggaa agcatcacta ctaaattagc aaggctttta taataaacat   180
tgaaasaaga tttcctttca aagtgtaaac ttacatctat tactacacac acaatgcata   240
tatttataga aagcaaaaag agctatctga atatgtaatc atgcttaaat gctgagctat   300
caaattcact tttcagtggc cccttttcat ctctatctgg ttcctacttt ctgcctctat   360
gaaaaagcaa aataaagctc aacacttcct caacatgtct gtaattctat aagcaaaaca   420
aaatacaaat ttccactctt tctcattgca aaccaaactg aaaagttaat aagtgactta   480
acttttcatt tagtgcactt aattggaagt gtcaccatga ttttgtattt aactcttaca   540
acaattacat atgtaagtat atacaatatt tctgtacatt gccagagaca ttttagggca   600
gtaattgtat taaaaccaca tctactgtaa ataatgttag gttctttca tctcaaacca   660
ctttattctt gcctacttac tcgttatttg catgatagtt tgtgaattat caaaatacaa   720
cttaactctt taaa   734

<210> 1432
<211> 542
<212> DNA
<213> Homo sapien

<400> 1432
tttaagaaag agcctttgag aaacatgcat actttttct tttctcctat attcaatact   60
catatagcct aaaagatgga aactggttca agaatttaaa tgacttgttc cctaaaaagt   120
taatctcctc acctttgtga aatatatcaa gtgctttcta taaataaggg caggaaatgc   180
taacttcata agcatagtcc tagtcattaa aataatttga tcatcttcta aaatttaagt   240
atgatagtaa cacagtaata tggaaaatct caatatactt aacacttcct aaacagcaca   300
atgaaatgtt gttcaaggtc tgaattaatt tgctacagga cctaagcaag tctgtttgct   360
tatcttttgg ctttaaaatt ctttaagtct aaaatggtga taatttaga ataaactgac   420
aatgtgggga acaaacttaa attcacaaac actacccata tgctcaaaaa ctctctggga   480
taattagttt cttcattgta actattgatg tactattatt tcatctttcc attagctcta   540
ct   542

<210> 1433
<211> 175
<212> DNA
<213> Homo sapien

<400> 1433
ttaaattgat tcaaaaaaac ttgacacctg tcatgtaggc cacaaaatag tagcgaacta   60
tactaagtgg tatagcccac tgtggagtgt ggtctttac tcttccaaat agcccaagtt   120
ggcaaaggtt acttaaaaac ctgcccccca aaaagctaac ttttggtaga ttttt   175

<210> 1434
<211> 90
<212> DNA
<213> Homo sapien

<400> 1434
ttaatcacta ttgatggaag cttatattcc ttatgaatat atacatgtat gcatatatac   60
atctctgtat gaatcactca aagcaatttt   90

```
<210> 1435
<211> 153
<212> DNA
<213> Homo sapien

<400> 1435
tttacctttg tgctttgaag gttctaccat ttakaaagta aaaagccaac ccacagaatg        60
gaagaaaaga ggacagactc taacaagcgt tcacaaagat ggagagaaat tgtaaccctc       120
atatattgct ggtagaattg tagaaagatg cag                                     153


<210> 1436
<211> 483
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(483)
<223> n = A,T,C or G

<400> 1436
tttttagttt aaagaagagt tttgccactt aracanggga gctwtgtctg gaaaatacac        60
tgagttgaaa cacttcatcc ttggaaggat tatataagat gaacagytgt gataaatgtg       120
tagattagag ggatgtgaat gggcagttag tccagtgccc tcatttaaga ggccaagatc       180
ctgattcaga ggaggcatcc tttgcccaga gctgcttagc taatctgacc aaatgttggg       240
aaaaatgtct cacctaaccc actattcctt aattatggat tttgtgaaaa acaatagaac       300
atgttaatga gtaatttata ttagttcgat gtattacaat tttttagctt taaattacag       360
ytttcttata atgttgaaat gttttagaat cctttgaatc taagtatttg tttcctaaat       420
gaaacatttg tacaacattt gatgttttta cttatgaaat attctcctcc cccaagaaaa       480
ttt                                                                     483


<210> 1437
<211> 171
<212> DNA
<213> Homo sapien

<400> 1437
ttttgccacc tcaagaagcc attttcttgt ctgtttcctt ctttacctac ccctacaacc        60
tatgaacaaa taccataact taaaaattta ggtagtctac aactcctaca aattttaagt       120
tcagagacta cccaaagaac tgtggaagat gcagcaatat aaaagttttt t                171


<210> 1438
<211> 408
<212> DNA
<213> Homo sapien

<400> 1438
tctgagtgga ggtaggctaa caacacattt tgactttstc ctcaaaggat agctttgaaa        60
aacaagtgta accaattgtt acaccaaatt aaaatggcaa tattaaatcg gtaacaaaac       120
gatccacatt ttatacaata ttgtatttcc aaacatacat aggtcatgaa aatcagagaa       180
cctaatatag caccgttgaa accattcatt atccttcatg tgtgtatgca attcagaatt       240
tcggcagaag acaacaaatg gaaaatgcct ttcgtttcta taaatcattt tggatttcaa       300
ttaaatcttt gccttagtaa agggtattct tatctcaaga tcaattagcc gtttttagct       360
```

```
ccaccgtttt ggaagtaaaa atgatgagct acatctactt tttaattt                    408
```

<210> 1439
<211> 168
<212> DNA
<213> Homo sapien

<400> 1439
```
ttacacaaca gctataaacc tgaacacata tgctatcatc atgccataag actaaaacaa       60
ttatatttag cgacaagtag aaaggattaa atagtcaaat acaagaatga aaaacgcagt      120
acatagtgtc gcgaactcaa atcggcattt agatagatcc agtggttt                   168
```

<210> 1440
<211> 307
<212> DNA
<213> Homo sapien

<400> 1440
```
tttcacatac gaagaaatca actgtgatta tgaagtgaca gccagctaaa tatgtcttgt       60
attttctctc ttccttttttt tgcctaactc atcctttact tccattcctg cttccatggt     120
aatgcaggct caaataaatt actaggatac aagattactt caagcctctt ttctgtggaa      180
ctcataatat gataagcatt tgttacaaga ttgcctgtag ttgtttaggg gacaaattat      240
attagggaaa gaaagtcttt ctttagttgg ttaaattttc tattataatt gggtactaaa      300
tttattt                                                                307
```

<210> 1441
<211> 684
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(684)
<223> n = A,T,C or G

<400> 1441
```
ttaagttctg gagtgttcac ttctgagcct gaattccctc ccctgcaaaa tgggggaata      60
ccctcctcag agggtccctg cgagggtgag gggagattca gcatggcagg tgtgctgggc     120
acggcagggc ctgggaaggg cagatccttt ccccatccct gccacaaaca acccaaacct     180
ttaaaggaga gcaatggcct tgtgtcaaaa acaaaaacaa aacaaaaccc tgtcctagga     240
gactgggggcc ctaatttcta atagcaagcc tttatgagtc cctaacactc tactgggctg    300
agtatctcac acgccagagg ataacctgcc ttctgctcac caccaccccg tagtagttgt     360
cattgtgtcc atttcacaga tgaggcaaag gctcagaaga gtcatgtgtt aaaccagctt     420
ctagagccca tgcaggagct gcaggtggga gaatcacctc taggtgctct tcccatagaa     480
tcctcacctc ctgagtgtca ctcactcagc ttccaatggg tgtgtgacct ttgaccagct     540
ttcttcctct ctgggcctca gtttcccacc tggacaaagt aagaggtctc ttggcttcan    600
gtaagttctt cctaaacttc tttttccttt tcatttgagc atcctcttca tttttgccac    660
ctctctgtca tttacaggct tttt                                            684
```

<210> 1442
<211> 166
<212> DNA
<213> Homo sapien

<400> 1442
```
aaaaaatcag  cccctaattt  ctccatgttt  acacttcaat  ctgcaggctt  cttaaagtga      60
cagtatccct  taacctgcca  ccagtgtcca  ccctccggcc  cccgtcttgt  aaaaagggga     120
ggagaattag  ccaaacactg  taagctttta  agaagaacaa  agtttt                    166
```

<210> 1443
<211> 194
<212> DNA
<213> Homo sapien

<400> 1443
```
tttgccctgt  caaaagaaga  gctaaagaca  gttatataaa  aattaaggtg  ggctttcaga      60
ctggctaaca  caacaacatt  ccatgagtag  atggtaattt  atttttgttt  atccatttcg     120
ttgggagcaa  ggacaaaaat  gtaaatctac  accttgctta  tcaaaattgc  cgaaaaaaga     180
atgctctgcc  tttt                                                          194
```

<210> 1444
<211> 96
<212> DNA
<213> Homo sapien

<400> 1444
```
gagagtcgag  agtgggagaa  gagcggagcg  tgtgagcagt  actgcggcct  cctctcctct      60
cctaacctcg  ctctcgcggc  ctacctttac  ccgccc                                96
```

<210> 1445
<211> 365
<212> DNA
<213> Homo sapien

<400> 1445
```
gggatgagct  gaccaagaac  caggtcagcc  tgacctgcct  ggtcaaaggc  ttctatccca      60
gcgacatcgc  cgtggagtgg  gagagcaatg  ggcagccgga  gaacaactac  aagaccacgc     120
ctcccgtgct  ggactccgac  ggctccttct  tcctctacag  caagctcacc  gtggacagga     180
gcaggtggca  gcaggggaac  gtcttctcat  gctccgtgat  gcatgagggt  ctgcacaacc     240
actacacgca  gaagagcctc  tccctgtctc  cgggtaaatg  agtgcgacgg  ccggcaagcc     300
cccgctcccc  gggctctcgc  ggtcgcacga  ggatgcttgg  cacgtacccc  gtgtacatac     360
ttccc                                                                     365
```

<210> 1446
<211> 386
<212> DNA
<213> Homo sapien

<400> 1446
```
tctggaaagt  tcttgctcgg  gtcccttcac  ctccccgccc  tttcttarag  tgcagttctt      60
agccctctag  aaacgagttg  gtgtctttcg  tctcagtagc  ccccacccca  ataagctgta     120
gacattggtt  tacagtgaaa  ctatgctatt  ctcagccctt  tgaaactctg  cttctcctcc     180
agggcccgat  tcccaaaccc  catggcttcc  ctcacactgt  cttttctacc  attttcatta     240
tagaatgctt  ccaatctttt  gtgaattttt  tattataaaa  aatctatttg  tatctatcct     300
aaccagttcg  gggatatatt  aagatatttt  tgtacataag  agagaaagag  agagaaaaat     360
ttatagaagt  tttgtacaaa  tggttt                                            386
```

<210> 1447

<211> 261
<212> DNA
<213> Homo sapien

<400> 1447
aaaattataa ctactcattc tttctttagc cttagttaat ttgagcagaa gccacaacaa   60
gcaaaccaca ataaatttag aattggcaga aatccacatt aactcctctt cccaagtttc   120
cacactacta ccatttacag ttgtaggttt gtaatgtata attatgtaat gcagaaacta   180
gctttgactt gtgtaacgat gcactgtcaa agtaagcaaa gtaagaattg aaattccaca   240
ttcccagaat ttaacactca g   261

<210> 1448
<211> 404
<212> DNA
<213> Homo sapien

<400> 1448
aaaaaaagga aaaagtttta ttacgaaact agtttgtata aaacagggtt atacatattt   60
ttgtaagttt gtaataaaac agtaagaaaa aaaaggcagt aatagaaatc tccaaaaggc   120
aacctatcaa aaccaactgg ctgccacttt gagtttggac agtagctgca taaactttgt   180
tcttcttgaa cagtatttaa taacatcatt aatacattaa caacatttct ataaagtaag   240
acacattggt gctgaagtac aactggtggc ctcttgatct cacctatgag gagagttctt   300
tacaaaacca cataggggaaa attgcagtt taaggtgaac tacacatcta aaatatgcag   360
aggtaatagc attacatgtt aaagtatcaa gatatacaca tttt   404

<210> 1449
<211> 230
<212> DNA
<213> Homo sapien

<400> 1449
aaaagttcta gtggtacggt aggagctttg caggaagttt gcaaaagtct ttaccaataa   60
tatttagagc tagtctccaa gcgacgaaaa aaatgtttta atatttgcaa gcaacttttg   120
tacagtattt atcgagataa acatggcaat caaaatgtcc attgtttata agctgagaat   180
ttgccaatat ttttcaagga gargcttctt gctgaatttt gattctgcag   230

<210> 1450
<211> 194
<212> DNA
<213> Homo sapien

<400> 1450
aaaaactcct tttggtttac ctggggatcc aattgatgta tatgtttata tactgggttc   60
ttgtttata tacctggctt ttactttatt aaatatgagt tactgaaggtg atggaggtat   120
ttgaaaattt tacttccata ggacatactg catgtaagcc aagtcatgga gaatctgctg   180
catagctcta tttt   194

<210> 1451
<211> 106
<212> DNA
<213> Homo sapien

<400> 1451
aaagatgaca aatactggtt aattagcaat ttaagaccag agccaaatta tcccaagagc   60

atacattctt ttggtttttcc taactttgtg aaaaaaattg atgcag   106

<210> 1452
<211> 349
<212> DNA
<213> Homo sapien

<400> 1452
ctgcagatcc tgcggaacgt cacccaccac gtttccgtga ccaagcagct cccaacctca   60
gaagccgtgg tgtctgctgt gagcgaggcg ggggcgtctg aataacaga ggcgcaagca   120
cgtgccatcg tgaacagcgc cttgaagctg tattcccaag ataagaccgg gatggtggac   180
tttgctctgg aatctggtgg tggcagcatc ttgagtactc gctgttctga aacttacgaa   240
accaaaacgg cgctgatgag tctgtttggg atcccgctgt ggtacttctc gcagtccccg   300
cgcgtggtca tccagcctga catttacccc ggtaactgct gggcattta   349

<210> 1453
<211> 302
<212> DNA
<213> Homo sapien

<400> 1453
aaaaataatg tgcaagagca tcatgagaaa gaagaggggt gaagagataa tccagaggaa   60
catcaaatgt aagagtatac actcaaagac aggtttaaga aagaccagtc agagaagtaa   120
agaaaaaaat caagcaagaa taatgttgca aaaattaaca agaaagttgc aagcccagag   180
tggttagcaa tgccaaacta ccatgagtaa gccacataaa acaagaactt tgggttcaac   240
tgctttaaca atcagacctt tagattcaca taacaggagt tacaaaatta agagcctctt   300
tt   302

<210> 1454
<211> 268
<212> DNA
<213> Homo sapien

<400> 1454
caagcgtaaa ccgcgggagc cgagcccagc taggaatgca gacctcctga aaaccaagcc   60
gaggactgcg gggtccggtg tccacgcaga gtgtcagctt cctctggtgc aaccagcaag   120
tcttccagta tgaatcccac agaaaccaag gctgtaaaaa cagaacctga gaagaagtca   180
cagtcaacca agccaaaaag cctacccaag caggcatcag atacaggaag taacgatgct   240
cacaataaaa aagcagtttc cagatcag   268

<210> 1455
<211> 207
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(207)
<223> n = A,T,C or G

<400> 1455
ctgtcgagag cagccctgcc caagawtgnc gggtggggggc tggtgccaac gggttcccaa   60
ggsccttttcm actttkgaak ggctggartt cttgggaaac cmaaacsktg actacctgsc   120
ttttttcttg ggcatygacs tgcttcattt ccaaaratga tggkgcaggt gacctttttcc   180

```
atcgtgagct aaaaaaaggt taggagg                                    207
```

<210> 1456
<211> 181
<212> DNA
<213> Homo sapien

<400> 1456
```
aaatttctgt ctgctaaaat ctatcaaata cattaaggaa aagtcccact tggcacatct    60
cccacaccag atgttaatta ttcatactgc atgactgagg attttggagg cagagagaga   120
ttcatctgca atatttggaa caccaatgga ggtctacgtc aacacagaat ttatacagca   180
g                                                                   181
```

<210> 1457
<211> 309
<212> DNA
<213> Homo sapien

<400> 1457
```
aaaaagwtca gagttgaaat gcctttcaac cattkccttc tgtggtcatt tttcttgctg    60
ccttttcac ccaagattca gcagtcagat gtttactgca cacctattac ctattatttg   120
ctgttcttgc atggttcaaa ccaccattct gtagccaccc atcctttgcc ttatctaaca   180
aacatttttc caggaaggtg gaaaaggaag tgttgctctc attgtgtgac tcagtgctgc   240
tgtccatccc atggaaacat gggcacaatc aagtatttgt ccagcctatt gcaggctttt   300
cctgacttt                                                           309
```

<210> 1458
<211> 117
<212> DNA
<213> Homo sapien

<400> 1458
```
aaagactatt gagaaatagg aaggtattga gagattattg ggtttcatca kagcagactt    60
aagtagcctg gttgatttta gatttgtcac agcaaaatca tgcttggatg ctcgagg      117
```

<210> 1459
<211> 575
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(575)
<223> n = A,T,C or G

<400> 1459
```
aaagaatgca taccagaaca tttataagca gtggagtgag kthtattaag aatagtacta    60
ctacaataaa cgctggctaa ataagaagtg cattatgtga agcactatgg gtggtatatg   120
cttwgmcaca tactctkgtt accttgaggy agatmacrca tgkgaaccaa cttcggcata   180
catttttcagt tgctgcgagg aatcatgtgt tttaacgaaa tgcgtcagta tgaaaaactt   240
gaaaatattc atgaatgawg aacgcmttag gaaaaaaata kstattctca tgcaattatg   300
tacagtctca ctgtgtarat ctcaaggcaa ggtttgcctc ctgtaaacca gatcaaggtg   360
ctatgagaga ncgccytgnc ttattgcatt tcttttctcc tmctgcgcca gcattatatt   420
gctctagnct ttatttttgt gtgcacactg acatgccatt aaaratgang ractatctca   480
```

```
catgtagaaa argaaagnmc ttggankcta cctcaggtcg ctaccacgct aagggygaat    540
tctgcaggat atccatcaca ctggcggcgc gattg                               575
```

<210> 1460
<211> 444
<212> DNA
<213> Homo sapien

<400> 1460
```
ctgggggttc cttccttcac gttgagaacc tggagcagag agtctaccaa cttaagaaat    60
attagaaaga gttcagcaaa cagagtgagc tgaagtctaa tcctagaagt aaatccattc    120
ctacaagtca tcagcatcac ttgggagctt gttagaaagg caaattcttg gttcagccta    180
acacctacta aatcagaaac tctgggggcg gagcgcagca atctgtactt tcacaagccc    240
tgcaggtgat tctgagcctg taaaatttga gaaccagagc tgtcccccag gagataaatt    300
aacttctact ttttttgag ctactgcatt ttgggatctt attgttttat cagcttaaca     360
tgcatcctga tatgattact caggtatgtt tcaaccaatg ttggttaatg tattatcccc    420
aggaacttat tactagagga gcag                                           444
```

<210> 1461
<211> 536
<212> DNA
<213> Homo sapien

<400> 1461
```
ctgcaaccct gggactgacc gggaggctct gattatttac ccmaccacag gtaggttgtg    60
ttctgaatct caggttcaca ggttaaggtt cagcatcctc atcctccacg gggttggagt    120
tgttgctggt gatgaagggt ttgggtggct ctgcatagac tgtgatcgtc gtgactgtgg    180
tcctattgag gccactggct gagttattgg cctggcaggt atagagtccg ctgttcttct    240
cagtgatgtt ggagataaag agctcttgtg tgtgttgctg gatgttccca tcaatcagcc    300
aagaatactg tgcaggtggg ttagaggctg catggcagga gaggctgagg ttcacccctg    360
gacggtaata ggtgtatgag ggggaaatgg tggggkcrtc yggccatag aggacattca     420
ggatgactgr gtcgctgtgs tyarcactta atkcgttctg gattccacac tcatagggtc    480
ctacatcatt ccttgtgaca ytgartagag tgagggtcct gttgtcattg gacagm        536
```

<210> 1462
<211> 409
<212> DNA
<213> Homo sapien

<400> 1462
```
ctgakagacc aggagaagtt ccagatgcag agactgtgat gctcttgact atggaattat    60
tgcggccagt agccaagtta gagacaaaac aggcataggt cccgttatta tttggcgtga    120
ttttggcgat aaagagaact tgtgtgtgtt gctgcggtat cccattgata cgccaagaat    180
actgcgggga tgggttagag gccgagtggc aggagaggtt gaggttcgct cccgaaaggt    240
aagacgagtc tgggggggaa atgatggggg tgtccggccc atagaggaca tccagggtga    300
ctgggtcact gcggtttgca ctcactgagt tctggattcc acatacatag gctcttgcgt    360
catttcttgt gacattgaat agagtgaggg tcctgttgcc attggacag               409
```

<210> 1463
<211> 502
<212> DNA
<213> Homo sapien

<400> 1463

```
ccttcagcct ggatccttta tattaagatc aatgaggacc atttctggaa gatgtctggc     60
atggtacaga ctgtctgagg ccractgaac acaggccctt accctgattt tatcagtgaa    120
aagctatggg actagtttcc ttacctctaa aatggagaga ataatagaat cttccgtcta    180
agactkctgt gagcataagc cgagaaaatg gaggtaaact gcttagccca atacttggat    240
tatcgtaaat attcagtaaa actagccacc gttgttattg taattattat tttgtatttt    300
attatacatt tcatggaaac ttaaaagtta gtgataatca cctcattttc agttgccttg    360
ctttcttcct gtaaatttta ttctctctta tcttgctcac tgtctttaag cattgccagt    420
ttagtataat tattttcccc tatcctctat aaaatcatat acaggatgga tttgttgatc    480
tcagacatgt tcactgagtt tt                                             502
```

```
<210> 1464
<211> 294
<212> DNA
<213> Homo sapien
```

```
<400> 1464
ggcggctcgg actgagcagg actttcctta tcccagttga ttgtgcagaa tacactgcct     60
gtcgcttgtc ttctattcac catggcttct tctgatatcc aggtgaaaga actggagaag    120
cgtgcctcag gccaggcttt tgagctgatt ctcagccctc ggtcaaaaga atctgttcca    180
gaattccccc tttcccctcc aaagaagaag gatctttccc tggaggaaat tcagaagaaa    240
ttagaagctg cagaagaaag acgcaagtcc catgaagctg aggtcttgaa gcag          294
```

```
<210> 1465
<211> 249
<212> DNA
<213> Homo sapien
```

```
<400> 1465
gtgcaggtct tcagccgtga cccggtaccc cagctctaag ggaggtggca gcatcaaagg     60
ctcccctcgc ctgcgtggca gcaggggaat cttgcgtcta cggggcctag agtcatggga    120
tctggggggag ccacccctgg gggcaagtgt ctgccctggt gctgtacctg ccttgttttc    180
acagcggtga cccgaagaga cagcctgagg tccgtcctca ctcactgtgt ttgaggaact    240
gtgggccag                                                           249
```

```
<210> 1466
<211> 203
<212> DNA
<213> Homo sapien
```

```
<400> 1466
cctcagacac ctttaattg cttaggagaa accattgtct ctgactgcag gtttgaataa     60
gttgaagacc agagaaaagt acacactggg ctacaaagga atttggagat agccaaggaa    120
caggatttcc cctagcaagc taccttctgt tcaaatcatg aaaaaagact atttccccctt    180
agaatagggga agcttgctat ttt                                           203
```

```
<210> 1467
<211> 223
<212> DNA
<213> Homo sapien
```

```
<400> 1467
ctgtcagaac aggaacgacc tgggttatgg aagcccagaa agggaggagg acttcttttg     60
gtcccagtga aagatgcttc cagaatctgt agccttactt atttgcttgg atctcactgg    120
aataacttgg tggtgaggtc accggttctg gggtgatcac tgggtttgct gcatagatgt    180
```

```
ttggatagat gacactcaca ttgcttgatt gacagcagac caa                        223


<210> 1468
<211> 177
<212> DNA
<213> Homo sapien


<400> 1468
ctgcattatg tgtgtttaga acgagaagtt gtttgtacag tattttccta ttgaccgctt        60
ccgtcttgcc tgaaacctgg gcattctttc caatagacag aaaatcagag agtcaaatct       120
gatgcgcaat gagttgttct gagaccagta atccacggtg ctgcaatttg ggttttt          177


<210> 1469
<211> 185
<212> DNA
<213> Homo sapien


<400> 1469
ctgaagctga gaagtagcct atctatggar gagactttg tttgtgttta attagggcta         60
tgagagattt caggtgagaa gttaaacctg agacagagag caagtaagct gtcccttta        120
actgttttc tttggtcttt agtcacccag ttgcacactg gcattttctt gctgcaagct       180
ttttt                                                                   185


<210> 1470
<211> 482
<212> DNA
<213> Homo sapien


<400> 1470
ctgaccagga gggacggttc tgtggacgag gacttcgtag ctgaggagcc agatttcttt        60
ttggtccctt cctcctggaa tggaatcgtg gcgctactgt ggagatctga gttgatgtag       120
cacctgcttc ctcggatgta gtccgcaccc cggaccagat gccgctcggt cgtgggtctg       180
gagaaccggt atgggggaga ggagctctct tcaatgatcg gaggaatccg ctcgttactg       240
aaataccggc aaagggcatc ctcccctttc ctgccatgac ctcgaggtct ggcaaaaggg       300
tccacaatcc ccatccagtt cccatcagca ggcatggaca aaggccgtgg cttgccttca       360
gagggacgag aaagaaggtg acaagtttga tgagttctgg aactttagtg aaccgttccc       420
tttatgtata acttagacct cacaatacca cacccactta gacagaagca ataacaaatt       480
tt                                                                      482


<210> 1471
<211> 257
<212> DNA
<213> Homo sapien


<400> 1471
tgtgtgaact tagactkwtc aattcaacat ttttaacrta tkaaatacta ttgtgaattc        60
aatgaagtgt tcttatgcca ctaactttaa cctattccct tactcamgga tgtaggyaaa       120
rgatggtaac aatacactat tkggcaagat aatgtmctga catmtytagc aatstttttt       180
gmcagtggct tkcaactgma mwkaaskkam mkaatattgy tkctgtwsgt arattattat       240
tctgwywyta atcattt                                                      257


<210> 1472
<211> 342
<212> DNA
```

<213> Homo sapien

<400> 1472
cttttgcgag cctctgccgc agcagctccg ttttcacgcg catctcgttt ttgtgtgtgt   60
gttttttgttt tgttttttgtt tttgtttttttt tgtttcagag aattggaagc taaagctacc   120
aaagacgtag aaagaaatct tagcaggtaa gatgggcgag ctttccgtct cccgccccac   180
gataatcgta tatttctact ccgattcgcc ctttctgggt tgagaagttc ccccgtgaca   240
ttttcttccg cacccggaga gcagacattc gggagaagcg gcctggggga atactggagg   300
gattgcgggg agatgcgtaa ttacgcgtgt gtttctttct tt   342

<210> 1473
<211> 526
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(526)
<223> n = A,T,C or G

<400> 1473
ctgctacatg tcttcacagc ccaggaattc aaggcccagg tggcagcagg aagaaacagt   60
ggaaaagcaa ggggaagaga aaagagaaaa aggaggggga aagtctgcat aactgtcata   120
acctctgctt ctcctgctct gtaacaaacc cacaaccagg aagagtcatg gtctggaaca   180
atcatgggac cccaaacgcc tgtaggtttt ttaccaccaa acatcaccca tggctgctct   240
aagctgtcat tttgttccca cagttaccta gcatcacgga tgcccaattt atggcccagg   300
aaggctgacc caggctaagg gcagtctcac tccacagcca tgcaatggac agtctgaatg   360
tttcctaccc cagacctttta ctgacctcta ctatttcctc ctctgatata aaagaaaaac   420
acttttaatt ttctnctgca tnctacatct cctnctaaaa antttggcct aattgncatc   480
aaaaccttgt aggaatctga aattttggtt cttctgaatc ttanccc   526

<210> 1474
<211> 187
<212> DNA
<213> Homo sapien

<400> 1474
aaacttgttt gctgtgaaca attgtcgaaa agagtcttcc aattaatgct ttttatatct   60
aggctacctg ttggttagat tcaaggcccc gagctgttac cattcacaat aaaagcttaa   120
acacattgtc caaaaaaaaa aaaaaaaaaa gccccykccc sggggggscck ttmaaggggr   180
aawtccc   187

<210> 1475
<211> 474
<212> DNA
<213> Homo sapien

<400> 1475
ccattctctt tatctcaaac cgaagaaaga tatgatgcag gcagtagttt tttcttagtg   60
cctcatagta tctaatagca gaaagtgagc cgcatagcgg agcacattag tttttatgta   120
tctacaggac agaagggcca cttagctgat ggctccaggt ttcctttgat ataatctaat   180
gttcctatga cctcaaagac tgaacacatt tccctaagtg cttcacttag cacccaggag   240
caacttggag tcttcgcaga ataaaatcca ttattttaat gtagattaat acatgggtac   300
ttatatctat gcaggtctat aatagtttat tcctatgtaa gctttattaa aagcattggt   360

```
atgttttaca taaaaagtta atgtgaatat tagaaaaaaa ggacaatatt aaagcagttt    420
gtagaatttg ttcccccccc aaaatgaatg aaatacacaa tagatgtaca aaaa          474
```

<210> 1476
<211> 401
<212> DNA
<213> Homo sapien

<400> 1476
```
ccttggggac agggcaggag gacgcacacc tcatggacag ggcggccagg gctgagatac     60
cagcggggtg ggtattcccg gcgggtgctt acctccaaca gtgtcttgtc agcaaaggcc    120
atgatgccct caaagatgat gacgtttgca ccatacagtg ttttctgtga agaaacccag    180
gagttgcgga gcctggctca tgtgcctgca gccccccgag gccccctctg cagggccctg    240
gcctacccag tccttcttcc ggctgtgcgt ggtgaagtca taaatgggca ccttgacact    300
cttcccctgc ttcagcttct tgagggtgga aatgatgaag gtcgaagtca aaaggcatct    360
ggggtgggtc gaaagtttga aagtttgctt gtggtgccgg g                        401
```

<210> 1477
<211> 753
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(753)
<223> n = A,T,C or G

<400> 1477
```
cagcatgctt aaaaagttgg aggaattgga acagaaatac acctwmcaac ctkrmcctnt     60
taccaaaaac aaacnagtgg tatkggamcc sacctttmrk ctttttcmac macttatttc    120
aaagytsrtt kgtggkgaaa agmcacycyk snatscywcc rcacccttgw aggcygttgg    180
acttrataac akknctgctn atnwntgtga ggggtgatay tgatgrtgaa attgcactta    240
gctgggttat aattkgaaag tcaaagtctt atttgataaa gatgtgaatg agagaaatac    300
agtaaaagga tttaggaagt tcaacatttt gggcacgcac acaaaagtga tgaacatgga    360
ggagtccacc aatggcagtc tggcggctga atttcggcac ctgcaattga agaacagaa     420
aaatgctggc accagaacga atgagggtcc tctcatcgtt actgaagagc ttcactccct    480
tagttttgaa acccaattgt gccagcctgg tttggtaatt gacctcgaga cgacctctct    540
gcccgttgtg gtgatctcca acgtcagcca gctcccgagc ggttgggcct ccatcctttg    600
gtacaacatg ctggtggccg gaacccagga acctgtcctt cttcctgact cccccttgtg    660
cacgatgggc tcancttttc anaagtgctt gagttggcag tttttcttnt tgtcacccaa    720
aagaaggtct caatggnggg acccanaacc ttt                                 753
```

<210> 1478
<211> 421
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(421)
<223> n = A,T,C or G

<400> 1478
```
aaacctatac tcactttccc aaattgaatc actgctcaca ctgctgatga tttagagtgc     60
```

```
tgtccggtgg agatcccacc cgaacgtctt atctaatcat gaaactccct agttccttca      120
tgtaacttcc ctgaaaaatc taagtgtttc ataaatttga gagtctgtga cccacttacc      180
ttgcatctca caggtagaca gtatataact aacaaccaaa gactacatat tgtcactgac      240
acacacgtta taatcattta tcatatatat acatacatgc atacactctc aaagcaaata      300
attttttcact tcaaaacagt attgacttgt ataccttgta atttgaaata ttttctttgt      360
taaaatagaa tggtatcaat aaatagacca ttaaccaana aaaaaaaaga aaaaaaaaa       420
a                                                                      421
```

<210> 1479
<211> 214
<212> DNA
<213> Homo sapien

<400> 1479
```
ggaaatatat aataaaaatg ttaaccagaa ggtaaacttg agtgtaattg tcagacagac       60
acacttttcc accagtgtat ttgaatttta gaccagtgac cctgttttgt ggcattcatg      120
caaaacatgc tgagggcttt gttcatctgg tcatcgtgtc caaatttcag tcatgtttgt      180
agcaagattt tggaagcatt catatttcct tttt                                  214
```

<210> 1480
<211> 434
<212> DNA
<213> Homo sapien

<400> 1480
```
ggaggccgct tacgtaaagc ccaggggaca ttcaacagcc cctactaccc aggccactac       60
ccacccaaca ttgactgcac atggaacatt gaggtgccca acaaccagca tgtgaaggtg      120
cgcttcaaat tcttctacct gctggagccc ggcgtgcctg cgggcacctg ccccaaggac      180
tacgtggaga tcaatgggga gaaatactgc ggagagaggt cccagttcgt cgtcaccagc      240
aacagcaaca agatcacagt tcgcttccac tcagatcagt cctacaccga caccggcttc      300
ttagctgaat acctctccta cgactccagt gacccatgcc cggggcagtt cacgtgccgc      360
acggggcggt gtatccggaa ggagctgcgc tgtgatggct gggccgactg caccgaccac      420
agcgatgagc tcaa                                                       434
```

<210> 1481
<211> 131
<212> DNA
<213> Homo sapien

<400> 1481
```
aaaatcccca taaatctttt ctgtcctgag gtagttgcaa aataaatcat aacttggata       60
tcaactagag ctgaggcttt gactttttac tcattaaaac tagttgttac aggaactacc      120
tttagatatt t                                                          131
```

<210> 1482
<211> 324
<212> DNA
<213> Homo sapien

<400> 1482
```
tgctcgctcc tcagaggctg aaaacatgag aagctaggtg tggtgaaacc aaagcagctt       60
tattgttcaa atgctaaaga cgggaggatg gactggctca agccttaaag aaaccatctc      120
gacttttga actcagtgaa cgggtttaag gaaaacgtgg gaaatatgca aaggtggtgc      180
aggagggtgc aggtctgtgt gtcttattcc catggatatc ttgagtaatc gcttgtccag      240
```

```
aggtggggtt tgtgtcatcc tgaattcaac ccagcaatgg tagggtactg ttcataactc    300
accctaagcc agaagattcc tcag                                           324
```

<210> 1483
<211> 393
<212> DNA
<213> Homo sapien

```
<400> 1483
atgtttaatg aatgatacag gatacatccc tgttggaagc ttgcaaaaga cacatacact    60
gtggtacata tttgatttaa tagaagttgt ttatcaggct atatatatat ttgcccaaac   120
atgcaccaca ggataaaata actatttaca taacataggg tatttaattg acatagacta   180
tcagctttgc tgagagcaga agatggcaaa gcaatactgc agcagaaagt ggaacaacta   240
ttctaaagca atactttaga tatatttttc tagaatggat ttattagatt acttttttgga  300
aagcatttga cctaaattaa atatagagct ctgaaactta gaataaaatt tgcacttgct   360
gaaacagaat actttgcata aaaataatcc ttt                                393
```

<210> 1484
<211> 323
<212> DNA
<213> Homo sapien

```
<400> 1484
tttagatcag aaagtttgag gtcttcatca gcagacactc gtgcttctat ttttcttgtt    60
ttatcgaaca gttctgaaac tttgagaaaa aacttgcata tatctgtaga atcctgagtt   120
cctaaagcat ataatgaaga accaattcta ttgtaatcat ctgcagcact tttgtgggat   180
cttgtcattc tatcagattt agcagatgca tccttaactc ggttatgata ttccaaaaga   240
aatgttcgtt cgtgctcaaa gaaatcatct acatccttta ctcctgaaac gattactcca   300
tctgctgatt taaccatgtt ttt                                           323
```

<210> 1485
<211> 405
<212> DNA
<213> Homo sapien

```
<400> 1485
aggagcgtca ggaaaacacg ggcagcctgg gctctgaccc gagccactcc aactccacgg    60
ccacgcagga agaagacgag gaggaggagg agagttttgg gaccctctct gacaaatact   120
cctcccggag actattccgc aaatccgcag cccagttcca taacctgcgg tttggggaac   180
ggagagatga gcaaatggaa ccggagccca aattatggcg aggccggaga aacaccccgt   240
actggtactt cttgcagtgc aaacacctga tcaaggaagg gaagctggtt gaagccctgg   300
acctgtttga gaggcagatg ctgaaggagg agcgattgca gcccatggag agcaactaca   360
cggtgctgat tgggggctgc gggcgggttg gctacctgaa gaagg                   405
```

<210> 1486
<211> 230
<212> DNA
<213> Homo sapien

```
<400> 1486
aaaaatatgt ggattgtgct tgacgtagca aatttcttct atctgcaaaa gcccttttct    60
cactacctca tatacacccc tttgatatgg caccatgttt gaaattggag cgtacacaca   120
tagtcattgg atttactggg attctctttg tgacaagtag gagccaaggg gtcatgcagg   180
gaagcgaacg tgcccgataa ggatttcctt gttgccagag tgtttagcag                230
```

```
<210> 1487
<211> 273
<212> DNA
<213> Homo sapien

<400> 1487
tttccactct gcacattgta gagggaacac tctgtaggcc catgggtccc ttactagaga        60
ggttgagtga atttgccttc agttaacatg ggaccttctg tttagcttcc tcttgcttcc       120
caaagatttt aagcattttg taaatgtata aactcacctc tggtaacagt ggcccagacg       180
ctgctttgtg ctaaaagcat gggaaatgta aaggcagtct ttctctggga aatggatgct       240
attctattct gctgcccta cctgttcctg agg                                    273

<210> 1488
<211> 452
<212> DNA
<213> Homo sapien

<400> 1488
cctactgtgc cccgtaggca aagctctgaa gatttcatcg aaaaatctgc tgtcaatacg        60
tagaaaagtt cactatttca gtttcacagc aaaaaaggtg gggggagggg ggaacccaat       120
agatatttaa gtagatgctt tccaatccca ttcactgcat taattagctt acctcttata       180
cagtacaaca taaacattgc atgtttattt gtatgtaaca cctataagca tatagcatct       240
acattttaag tgtatttaca aattcaacaa aatatctaca tataaaaagc tttacttaaa       300
attaaacttg atgcaagtta tgagaaacca atttattggc aaatgaaact gagcattcct       360
tcaaccatag gttgttatag attttcatat ttggaggtaa cccatttgat agatattgtt       420
tatgaatacg atagaatata tatttacttt tt                                    452

<210> 1489
<211> 653
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(653)
<223> n = A,T,C or G

<400> 1489
cctgctcttc tcttcaaagc acttagtaca cagggktaca ggtgctacca cttggattcc        60
ccagagcatg gaagtctgat cccaggttga acatatttct tctgaaaatg agcatcttgg       120
ttctatagat tcttatcttg ctcacaggac ttgctccaaa actgaatttt cagaagcagc       180
atgataggga aagagatatt caactctgac agacaaggta gatcgaagca cccacactaa       240
tttctttcag gtgccccatg aggaagactg catcatgtca cttccactca cttggggaga       300
ttctaggact gagacacaaa gttcccccag agtttctgct aatggaaggg gaaacaggtg       360
gtttggaatg gaaaggtgga accaggtcca caaaatgtgc tccctctgct caagactgac       420
tttggctttc ccaggtcccc acttgacttt catataagct gagatgacct attacgggaa       480
aaattaggga acacctaata aaaccaactt tcaaaaactc ctatttatca tggatgtgcc       540
acgatcgaga gaatcnaaca cnaactgnct gtnagagagg ccttcattnt gnctcatctt       600
gagctaaaat cctgrcttgg gatgccagaa ancatgnccc tcttntcggt ttg             653

<210> 1490
<211> 363
<212> DNA
```

<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(363)
<223> n = A,T,C or G

<400> 1490
taacctgaca aaataaaact tagtaaaatc takaactgtt tcttggccta cttgagagga   60
acttccatat tttcacagcc atctccgaaa gcagcagttg ctgtaaatta actgagactt   120
ggaaatggtg cagactgtct tggtagagct gttcttatag cacaatttta tctggaaaat   180
aaacttgtaa atgcgtgctg tatattaata catgtgtgcc catatttatt tttattatct   240
cctgccagtc tttgctcaat gggagatgac agaccaactt ctcaacgtga tttccccatt   300
tcattgaatg agatttatat gccacttatg aaaaaaaata ctgctgngaa agaaatgtac   360
ttt   363

<210> 1491
<211> 163
<212> DNA
<213> Homo sapien

<400> 1491
taatcagccc ctaatttctc catgtttaca cttcaatctg caggcttctt aaagtgacag   60
tatcccttaa cctgccacca gtgtccaccc tccggccccc gtcttgtaaa aaggggagga   120
gaattagcca aacactgtaa gcttttaaga aaaacaaagt ttt   163

<210> 1492
<211> 184
<212> DNA
<213> Homo sapien

<400> 1492
yattccccag gggaaaaatt gaaagtcaaa ctattcacca agagaatgca ttgtctttgc   60
aaatgagcct aagaatcaga ctttttataa atacatgttc aagtttcttg tggttctaaa   120
tggacactga gaactgaaac tgtctacacc aagtttacaa tctatattaa ctatcattwt   180
acag   184

<210> 1493
<211> 273
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(273)
<223> n = A,T,C or G

<400> 1493
aggtaawttg tgatatttag tgcacattta cgtgtaggnc crtcttkaat ggtaaagaca   60
gatacaagcc tatggcacac ttctccaaag caagctatac ttgagagcca attcccaaat   120
aagacagcag agatctgatt aaatgcaact gtgcaaacat tcaacagaca tgttgaatgt   180
aagacaaatt atgattactg ataatatgca aatgtggtct ataaatttat gaatgtgact   240
tccaagggga atatggtatg gaagcccatt ttt   273

<210> 1494
<211> 343
<212> DNA
<213> Homo sapien

<400> 1494
```
ttggaaagcc tatcactttc tctcttcatt ctccagcccc cacaccaagc acacagagct    60
tttcagtgct ttactcttaa tggagaacat aaccagggat tatcaggtat tccaacatga   120
aaaagaaagt ccaatagaaa caagcaggat aatcaaacca ggaggaagca gagactatat   180
agagaaagaa aaaaagacac atgggaataa cggcaataat actgacaata cacctcacca   240
taaacttatc agaatgaatt tgttggagaa atatatggag gggaggtact tgtgtgtgtg   300
cacaggcact catgtacacg tgtgtatgtg tatgtttttt taa                     343
```

<210> 1495
<211> 378
<212> DNA
<213> Homo sapien

<400> 1495
```
tagcattctt ccagccactc tggcgtcact atgtgcttca cgacagaaat cgccgtcagg    60
aacttcacgg tgcgagtcac tttgctggca atgaggtgtg tgcacttctg tgcagactcc   120
gcaacctctc caccaagaat gtagagcttc ttaatatact gttgaacctg acaggctcg    180
aatccagtga aaagcacaaa aggggtcaat tctggagtta gcttttttagt gggaggtggt   240
acgtcttcaa ttctggctct tttggaagaa ggctggacat tagctacttc attctgtttc   300
agtttgggag gtagtcttat actcatcaac aactctgcag acactttaa gggaactctc    360
caagcatcta aaagattt                                                  378
```

<210> 1496
<211> 181
<212> DNA
<213> Homo sapien

<400> 1496
```
tggagaagga agttttcctg aagagccaga atccttgcta agtcatttag atccaactga    60
ccatctttat ttctgtcaaa aatcttcatc atggtgccag tgtattcttc cagtttagcc   120
tcagaaatgg cctttttgtg gtgaagaaag aggtctcgga ggaagttgcg gagctcagca   180
g                                                                   181
```

<210> 1497
<211> 373
<212> DNA
<213> Homo sapien

<400> 1497
```
tggaagctga tccaccttga gatcaagccg gccatccgga accagatcat ccgcgagctg    60
caggtcctgc acgaatgcaa ctcgccgtac atcgtgggct tctacggggc cttctacagt   120
gacgggagag tcagcatttg catggaacac atggacggcg gctccctgga ccaggtgctg   180
aaagaggcca agaggattcc cgaggagatc ctggggaaag tcagcatcgc ggttctccgg   240
ggcttggcgt acctccgaga gaagcaccag atcatgcacc gagatgtgaa gccctccaac   300
atcctcgtga actctagagg ggagatcaag ctgtgtgact tcggggtgag cggccagctc   360
atcgactcca tgg                                                      373
```

<210> 1498
<211> 337

<212> DNA
<213> Homo sapien

<400> 1498
gctcttgtag tgcttttctt ttaagggaga tgtagtaaaa gggaaaatgt agctcttagt   60
ttacacttca aagatgtggg ggtctttcag agaactaaga ataacagttt tatgtgcaga   120
gagagtttgc cagatctgaa gcatatacct cattgactag gctgttactt tgggataggt   180
tgcagtacca gccacagcca gcagatagag gaaaagacac acataaactc gcttctgagc   240
gtccacttct gcactctctg ctctgctgtt actcagcccc tgagtctgac tcatctctgc   300
acaacctctc tgtgccatga agataagtct tccatgg   337

<210> 1499
<211> 314
<212> DNA
<213> Homo sapien

<400> 1499
catgcggagg gactttagca tggctgataa ggtccttcct accattccaa aagaacagag   60
gaccagagtt gcacactttt tggaaaggca gggcttcaag cagcaagctc ttacagtatc   120
cacagatcct gagcatcgtt ttgagcttgc tcttcagctt ggagagttaa aaattgcata   180
ccagttagca gtggaagcag agtcagaaca gaagtggaaa caacttgctg aacttgccat   240
tagtaaatgt cagtttggcc tagcccagga gtgcctgcat catgcacagg attatggggg   300
cctgctgctt ttgg   314

<210> 1500
<211> 321
<212> DNA
<213> Homo sapien

<400> 1500
cctgaaacct ggtgggaaga tgattgaaag tgttttagat tcaacagatt gactatgtat   60
gacttatcta ttaaaatgaa gaacttccat ggtttaatag aatgaatgct gtattcaaca   120
aggtcttcca tccttcttat aaatcttaag actgtgttta agctttcttt cacttttact   180
ctatcccttg gaagttaatt gggaataaaa agatttatca atttagtcac tataatttaa   240
ggccaggcat ctgcttggaa atacaataac cacaattaat acttagagaa aattgtttca   300
acagattaac tctgctattt t   321

<210> 1501
<211> 557
<212> DNA
<213> Homo sapien

<400> 1501
ctgctctggg gaaaatggtg gaggagccag gcagagagga ggagcagagt gctggcagtg   60
gaaagcctag ctgagactgg agatgccccc ctgcccaaag catctcagcg aggatgcttc   120
tccatatggg tgagccagcc tagagacaga acaggggaag ccagcgggtg ctgcagcgac   180
ccaccgcccc agaacatctg catcttacat caacaaaggt ttatttctca ttaatatcca   240
ttgtgggttg gctgccactc taaccctcgt tgcctctcca tctgggtctt gggtggcaga   300
gcagcctgtc tctgtggcag aggaaaagag agcactgggc agcacaggct gactctcaaa   360
ttttccgcct gaaggtgacc caagtcactg ctcacatttc attgactaaa gcaaaatcct   420
atgcctgtgg gtgagttgag caacgtgatg aggtgttaac ttcctacagg gaggggctca   480
aatattgccc aacagtggta tggcccactg cctggggtgg tcggtggaag gctggcagga   540
caagggagac cacgtgg   557

```
<210> 1502
<211> 249
<212> DNA
<213> Homo sapien

<400> 1502
cctgcgggga ggcgcgctgc aagaacctgc ccggctccta ctcctgcctc tgtgacgagg      60
gctttgcgta cagctcccag gagaaggctt gccgagatgt ggacgagtgt ctgcagggcc     120
gctgtgagca ggtctgcgtg aactccccag ggagctacac ctgccactgt gacgggcgtg     180
ggggcctcaa gctgtcccag gacatggaca cctgtgagga catcttgccg tgcgtgccct     240
tcagcgtgg                                                             249


<210> 1503
<211> 302
<212> DNA
<213> Homo sapien

<400> 1503
ccaggacctc ttttgggcat ttcttcctaa gtggaataca caacagataa gggagtaggg      60
gaggtaatac agggaagcta ctctttccag ctcagaagga gttgatgaag cccatatatg     120
cattcaagaa gcccatggga tcctctagct gtggatagtg gctaatgtgg tcatccagaa     180
tcgacactgt ggaccgcggc agcgttttcc tgtacagctc caaaaactct ggatagggat     240
ttacaggatc caatggccca tagataaaat gaatggggat agttacagag gcaagagctc     300
cc                                                                    302


<210> 1504
<211> 430
<212> DNA
<213> Homo sapien

<400> 1504
ccacgatatc aactatttgg ctttgtcagg tgttctctca aaaattggca gaagtggtga      60
gaatccgtat gccccgctga atctcctggc tgactttgct ggtggtggcc ttatgtgtgc     120
actgggcatt ataatggctc tttttgaccg cacacgcact ggcaagggtc aggtcattga     180
tgcaaatatg gtggaaggaa cagcatattt aagttctttt ctgtggaaaa ctcagaaatt     240
gagtctgtgg gaagcacctc gaggacagaa catgttggat ggtggagcac ctttctatac     300
gacttacagg acagcagatg gggaattcat ggctgttgga gcaatagaac cccagttcta     360
cgagctgctg atcaaaggac ttggactaaa gtctgatgaa cttcccaatc agatgagcat     420
ggatgattgg                                                            430


<210> 1505
<211> 164
<212> DNA
<213> Homo sapien

<400> 1505
ccagtcacct tcaccttcta actaactagc ctccggatga ggtggctgcc accaggcccg      60
aatgatcccc aggagcccag cttccaaacc ccaacatcga atcaaacatc tccatcccca     120
agtgcagtaa cacacaaaaa ccaaacactc tgccctggga aagg                      164


<210> 1506
<211> 189
<212> DNA
<213> Homo sapien
```

<400> 1506
```
aaaagtcata agggttttat tttgtatcat caaaatattc tataaggtcc caaatactct        60
ttttcaaccc atgaacagta agaatttgtg aattctgata atgaaaaaag ttttcctcca       120
ggtatgtttg tttcacattc agtcctaaag ccttgagcta tgtgtacttc cctcacacag       180
gaacaccag                                                               189
```

<210> 1507
<211> 268
<212> DNA
<213> Homo sapien

<400> 1507
```
ctgcacagag gggcacggaa ctccaaatcc tggaatgcgg gtcaataatg tgaattctgg        60
ccctgaccgc cagacacaca gcaagcctga gtcatctgcc gtcaccatgt cagccacaca       120
atcctgtccc tgggcaggct cggtggcaat gtctgtgatt ggcatctggt gcccagccag       180
ctcctcgctc agtacaatgt tgggaccctt tgctgggatg tcaaacacca gcacccggcc       240
tgaccacgtt cccacacaga tgaagtgg                                          268
```

<210> 1508
<211> 159
<212> DNA
<213> Homo sapien

<400> 1508
```
aaagatggca aggcaataaa tgtgttcgta agtgccaacc gactaattca tcaaaccaac        60
ttaatacttc agaccttcaa aactgtggcc tgaaagttgt atatgttaag agatgtactt       120
ctcagtggca gtattgaact gcctttatct gtaaatttt                              159
```

<210> 1509
<211> 234
<212> DNA
<213> Homo sapien

<400> 1509
```
ccattgtgga gtacattatg aacacaatgt gcttgykaag tcttctctct cattttcaga        60
cagcaattgt taagagtcac acacacgtcc cagacctaag cagcaactcc agtgaatggt       120
actcagacac actcacggga cagcacagaa cttgattctt ctttgtctgt tgcccaaaga       180
acctgttctt tgagtctgtt ccaggtgact tgtaatgata cctcttacgg tttt            234
```

<210> 1510
<211> 437
<212> DNA
<213> Homo sapien

<400> 1510
```
aaagcagtac atcttaatat gaagacagga atttctatga tgcttacgaa cattagactc        60
aacattttg cagcccccctt tcctggtcta cattcacaca aacatgagac acagtcccaa       120
gggagaaaca gatgctggag gagcatttag ggccagagtg gaggcacaga ggaagctggg       180
attttcaac tacccccctcc ttggttactc ctgggattcc cttaggattt cacggcacaa       240
ccagcgaaga gtttgctcag attcacttcg gagtagccac ttcgggacaa gaattgctct       300
gctgtgttct tgagttttct gtagtcctgc agaacttggg gggtaaaaaa ttgcttcttc       360
aatttatctt tctcatgatc ggtagtaagt ttctccagtg cacactccgc atcaaaaatg       420
taccggtaaa agcacag                                                      437
```

<210> 1511
<211> 94
<212> DNA
<213> Homo sapien

<400> 1511
tgtgaagatg gagtctgagg ggggtgcaga tgactctgct gaggaggggg acctactgga   60
tgatgatgat aatgaagatc gggggggatga ccag   94

<210> 1512
<211> 493
<212> DNA
<213> Homo sapien

<400> 1512
aaaaatatgc attacaactg gagttttcca ctgagaataa gagtttggtt ttgacctcmc   60
ataaatccaa gggttcttga aaaaaaagtt aatataaatt ctcaataact atatcattaa   120
taccttatgt atacatagga gtttatataa tgcatttaag taacaaagaa tgtaacattt   180
attagccacc aagtaattag gagatagcat caattatatt gaaagaagat gagtttagat   240
gcttatagtc aagggagtta attgaaattg aaagctattg taggtggtta ctactattat   300
tatcaaacct gaaagttgga acatgtgaac ttgatccttt gcacacataa aagttcacaa   360
agctgctttt aatttgcctt tgttctgtag tactgcttgg tgaatcatgc actagtttgt   420
tgtaaaattc atgtaaactt ttatgtatac aaatgtcaga tcaagcacag gttttattaa   480
ttatatatat ttt   493

<210> 1513
<211> 510
<212> DNA
<213> Homo sapien

<400> 1513
aaatgaggat tattgatagt actcttggtt tttataccat tcagatcact gaatttataa   60
agtacccatc tagtacttga aaaagtaaag tgttctgcca gatcttaggt atagaggacc   120
ctaacacagt atatcccaag tgcactttct aatgtttctg ggtcctgaag aattaagata   180
caaattaatt ttactccata aacagactgt taattatagg agccttaatt ttttttttcat   240
agagatttgt ctaattgcat ctcaaaatta ttctgccctc cttaatttgg gaaggtttgt   300
gttttctctg gaatggtaca tgtcttccat gtatcttttg aactggcaat tgtctattta   360
tcttttatttt ttttaagtca gtatggtcta acactggcat gttcagagcc acattatttc   420
tagtccaaaa ttacaagtaa tcaagggtca ttatgggtta ggcattaatg tttctatctg   480
attttgtgca aaagcttcaa attaaaacag   510

<210> 1514
<211> 511
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(511)
<223> n = A,T,C or G

<400> 1514
ctggagatca ggaatagaac ctttccaaga tatcataata ttttctttat aggaacactg   60

```
agtaatggca agaatatttt gagctttcc atggttaaga gcgatagtct cagaggctgg        120
agaaaatgtt cattctgctc agtgatccag gagtgtgagg acagtagctt cctttccacg        180
tccacaagac aatgacagat gtgtttcctt ctttgccctt tctagggatc tttctaggga        240
tgttgattct ctcacaatat ttcaatgtcc catttctgtg tttcttctcc ctccaggggc        300
tgatttacga ttacatgagt cttgtcacaa taatttcctc ctttaacatc aaggacaagt        360
tgatcactga gataagagct gatagttcca ttttttattca gtctccactt ctgcctgaat        420
tgcccatgtt cagtccatag agctacttta gctccaggtg tggtcccggc cnccatcaca        480
tcaagaactg gtttcactgg gccttggatt a                                       511
```

```
<210> 1515
<211> 176
<212> DNA
<213> Homo sapien
```

```
<400> 1515
aaaggggaag gkgaractta aaagtattcc caactagatt atctacacca atacattgga         60
actctatatt ttgctttcat tttgtcttaa aaaaatgaaa tagcaacgct ctatcagtca        120
cacagaggac atgcarattt agcagtattg atattatact ctatcttgtt ggattt           176
```

```
<210> 1516
<211> 309
<212> DNA
<213> Homo sapien
```

```
<400> 1516
ctggggaaaa ccgtgcatta cctgcccatc ctgttcatcg accagctcag caaccgcgtg         60
aaggacctga tggtcataaa ccgctccacc accgagctgc ccctcaccgt gtcctacgac        120
aaggtctcac tggggcggct gcgcttctgg atccacatgc aggacaccgt gtactccctg        180
cagcagttcg ggttttcaga gaaagatgct gatgaggtga aaggaatttt tgtagatacc        240
aacttatact tcctggcgct gaccttcttt gtcgcagcgt tccatcttct ctttgatttc        300
ctggccttt                                                               309
```

```
<210> 1517
<211> 182
<212> DNA
<213> Homo sapien
```

```
<400> 1517
ccaacatcta atttttttac tttttaatta tagctgttgt gactgatgtg agatggcatc         60
ttactgtggt ttttgcttgc atttatttat ttgatgatta gtaaggatga gtgtttttc        120
atatacttga gtgtcttctt ttgagaaaat atctgttcat gtcctttgcc ttttcttgat        180
tt                                                                      182
```

```
<210> 1518
<211> 548
<212> DNA
<213> Homo sapien
```

```
<400> 1518
cctgagggag agggaaaagc ggatacccac ctgtgtcgct gtttgcgtgc caagtccagg         60
aacagtccat acagccctgc tgcatcccac gacgctgtca caaagcagga gttcatccga        120
ggccaaggtg ttgtcatgag aatattcgtt aaagtaggga cgctgacttt gttcttgggc        180
agattctctt cctgtggagt atccagcctg tttgcctagt tttcctgttc ttctggggtc        240
tgatctctat ctgttttact gcagtccagt taccaaagtg gtataagtaa aattgaaaga        300
```

```
attctaaata cctttcccc ccacgttagc tgcctcacgt taatgtggtc ttacggtctg      360
caaataagtg ttttgatgat ttggcgactg cagttaccca tactagctct cctaccactc      420
actactgaca gttaattatt atcgaatatc cacccaccca gggtgagtta taagttatac      480
caggtgtttt ggttaataat actaatgcaa ttaatttact ggttactctc tcatcttaaa      540
gtaatcag                                                              548


<210> 1519
<211> 491
<212> DNA
<213> Homo sapien


<400> 1519
ctggtgaagg acggcttcct ggtggaagtg tcagagagct cccggaagct gcggcacgtc       60
ttcctcttta cagatgtcct actgtgtgcc aagctgaaga agacctctgc agggaagcac      120
cagcagtatg actgtaagtg gtacatcccc ctggccgacc tggtgtttcc atcccccgag      180
gaatctgagg ccagccccca ggtgcacccc ttcccagacc atgagctgga ggacatgaag      240
atgaagatct ctgccctcaa gagtgaaatc cagaaggaga aagccaacaa aggccagagc      300
cgggccatcg agcgcctgaa gaagaagatg tttgagaatg agttcctgct gctgctcaac      360
tcccccacaa tcccgttcag gatccacaat cggaatggaa agagttacct gttcctactt      420
gtcctcggac tacgagaggt cagagtggga gagaagcaat ttcagaaact acagaagaaa      480
ggatcttcag g                                                          491


<210> 1520
<211> 169
<212> DNA
<213> Homo sapien


<400> 1520
ctggtactgt cgatttggaa agctggctgg aaaaaactta ttcatgaagg ggctgatggt       60
gtgggacagg gccaggattc ccagcacgaa gaaatacatg gacagcagga ggttgatgta      120
ctcctgggag aatattttga aaaagaggta gagccccaag agtgtgcag                 169


<210> 1521
<211> 293
<212> DNA
<213> Homo sapien


<400> 1521
aggacgacgc tgtcrgargc agggagagca aattaccaca gcttcttggc ccagttctgc       60
ccttctttgc tttgggattg cactgggcca tcagctcatg ccaggctatg ggggcagcca      120
gttggcattg ctccccagac tgaacagaaa cctggccgcc ggatgggacc tcctttggca      180
cagacttgac tgtgtaactg cataaactgc agtagcatca ttgccctaga tgccccagga      240
gacctggcac catgaggatt acagacagtg gaatcttact gtcatctgga cag            293


<210> 1522
<211> 386
<212> DNA
<213> Homo sapien


<400> 1522
ccacgtggga ctttgaagac agcacaacac agtccttccg ctggcatccg ctccgggcca       60
aggcggagaa atacgaagac agcgttcctc agagtaatgg agagctcaca gtccgggcta      120
agctggttct cccttcacgg cccagaaaac tccaagaggc tcaagaaggg acagatcagc      180
catcacttca tggtcaactt tgtttggtag tgctaggagc caagaattta cctgtgcggc      240
```

```
cagatggcac cttgaactca tttgttaagg gctgtctcac tctgccagac caacaaaaac    300
tgagactgaa gtcgccagtc ctgaggaagc aggcttgccc ccagtggaaa cactcatttg    360
tcttcagtgg cgtaacccca gctcag                                        386
```

<210> 1523
<211> 178
<212> DNA
<213> Homo sapien

<400> 1523
```
aaaaagccta tcccatactg aattgtggga acctatgaag tgtctcttaa tgtcaattaa    60
aagtaacagt ggctgcagat attgatttct gaaagtacat gagaatttgt ctctaactat    120
ggttgaaaca acaaaaccaa atctgaatca ggtagaggtc taccagacac aaactctg     178
```

<210> 1524
<211> 319
<212> DNA
<213> Homo sapien

<400> 1524
```
wycacagcwg aaatggggca ctgaagtgtg gagscacaka atgcgggagg gcagaaccac    60
agacaggagg ctgagattga cctcctgagt gcaagctggt ctccccttca cctcctgcac    120
cctacgcaga tggtgcttac cataggattg ccgtaaaaca gagacacgca ccagcgagaa    180
actttagccc ttagtatccc atcctcagga cagaatcact cttaaacatg ttgaaataca    240
tctgcttaga gcttttctat gtgtctatat aatgtatgca taatatacaa ttagaagcat    300
gtgattttat aacattttt                                                319
```

<210> 1525
<211> 467
<212> DNA
<213> Homo sapien

<400> 1525
```
ccagactaga cagagatcag gtcatcaggg gagcttccga gcttcagcaa agcccacagg    60
tagctctgcg aactcagaat gctaccctac cttccctgca ggccgctgtt catgtctgga    120
ctcctggggg cgctatttaa tgtttacccc catctccagt gccccctcca aggctgtgca    180
gtgtcttggg gctctcaggg ccaacatcga agagatgggg gccacctctt aacacctggc    240
aacagtctcc cctcatcctg attcctgaca acagacaaaa caccggtttc tagggtttat    300
ctgtttgttt tttgagttga gggttcctca gggccttggc attgctagtg atggtcccct    360
ttgctgtgtg agaacccccт caacccсttc ctcctccctc tggggatgaa gtgggagtat    420
ttggctcccc atttttgaca aaagggctca gtgcagggag gtggagg                 467
```

<210> 1526
<211> 439
<212> DNA
<213> Homo sapien

<400> 1526
```
aaactgttta ctggagaaaa tcctcgctca tgtccattta ttgttttttt ctgtactgtg    60
atttgtttca agcttaggaa aactagtata ttagagtatg ttctaggaaa ttaaagatc     120
tggttagagt aaaaagttct ttttaaggtt cttaactaat tttttcacaa ctaagaaaat    180
aaatgaagta ttcttaggct gaaattcatc ttattttatc ataaattaga ttgtaggggc    240
agcctacatt tttgtgtatg tgttttttatt tcttaaatga ttgtgtgagc ctggtgacat    300
tttatggttc ttgtgatcta aactgttttt ccaattcaca tcttttgtcg tgaagtgata    360
```

```
ttatactaga gtactgtttg cattgtaaaa atgctttgct ggtgctctgg cattttgtct    420
ttatctcatc acctaattt                                                 439
```

<210> 1527
<211> 609
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(609)
<223> n = A,T,C or G

```
<400> 1527
ctggagaact tgggctccat taggtgcaat cgttggagta attagcccat cttttacatt     60
tcttgccaca aaatctcgaa gagctgccat ttcaggttcg gacagtgaat acacatgtcc    120
actgggaata ctgtgtgctc caggtatcat ttctatgtga gggtcaacca ggcggtgatc    180
tgggtagacg tgctcatcta ctggagtgta cacattctgg acatagtaat acctcactgg    240
ttggtaaact ctgtatccat ctactggata atagagtggc ggttgtggtg ctggtggtgg    300
gagcgatggt ggtattggag aatacatccg gcagtggtag cggcagtatt cagaatcaaa    360
gacgatagat cgagtgctcc atgtgatatt gggatcatgt gtgctcagcc agcgaacccc    420
taggacgaca gggaagaatg gagactgagt cacatcaaat gacagcacct ctcggtgatc    480
tcccaggtca actatcaggt cgtgagtttc gtggacaact gggcccgatg ctatggggcg    540
cccatcaatt gcttccacaa gtattggacc cgcccgggcg gncgctcgca agggccgaaa    600
ttccagcac                                                           609
```

<210> 1528
<211> 393
<212> DNA
<213> Homo sapien

```
<400> 1528
tgatgtaatg aattcatatt tattgataca gaaaaatatg atataatcca tctaaaaagc     60
aagttacaaa acagtgtaca gtgtaccata gtacctatga acacaattag tgaagtaatt    120
tgcagagcta taataccaaa tcagaaatta ttttggtaat gaatttatga ttttcctcgt    180
tttctgattt tttccatgat ctcatatact ttattctcag aaaacaaaag acaaaacccc    240
acacatacac aaaaataaac gagtaacttc tttacaaccc cagaggctaa gtcagtggga    300
aaagagggaa atgaatggtt atgagcataa acacagggac aaataaaaga agtttggagc    360
acagagaaca attcacaaat cagaagtcat ttt                                 393
```

<210> 1529
<211> 143
<212> DNA
<213> Homo sapien

```
<400> 1529
atccgataga atccagttca atgaccttca gtctttactc tgtgcaactc ttcagaatgt     60
tcttcggaaa gtgcaacatc aagatgcttt gcagatctct gatgtggtta tggcctccct    120
gttaaggatg ttccaaagca cag                                            143
```

<210> 1530
<211> 636
<212> DNA
<213> Homo sapien

```
<220>
<221> misc_feature
<222> (1)...(636)
<223> n = A,T,C or G

<400> 1530
gtggagaagc ggcttggtcg ggggtggtct cgtggggtcc tgcctgttta gtcgctttca      60
gggttcttga gcccctttcac gaccgtcacc atggaagtgt caccattgca gcctgtaaat     120
gaaaatatgc aagtcaacaa aataaagaaa aatgaagatg ctaagaaaag actgtctgtt     180
gaaagaatct atcaaaagaa aacacaattg gaacatattt tgctccgccc agacacctac     240
attggttctg tggaattagt gacccagcaa atgtgggttt acgatgaaga tgttggcatt     300
aactataggg aagtcacttt tgttcctggn ttgtacaaaa tctttgatga gattctagtt     360
aatgctgcgg acaacaaaca aagggaccca aaaatgtctt gtattagagt ccaattgatc     420
cggaaaacaa tttaattagt atatggaata atggaaaagg tattcctgtt gttgaacaca     480
aagctgaaaa gatgtatgtc ccmnctctca tatttggaca gctcctaact tctagtaact     540
atgatgatga tgaaaagaaa gggacaggtg gtcsaaatgg ctnttgagcc naattgtgta     600
acatattcag tacccaattt actgngggaa acagcc                              636


<210> 1531
<211> 194
<212> DNA
<213> Homo sapien


<400> 1531
aaaaggcaga gcattctttt ttcggcaatt ttgataagca aggtgtagat ttacattttt      60
gtccttgctc ccaacgaaat ggataaacaa aaataactta ccatctactc atggaatgtt     120
gttgtgttag ccagtctgaa ggcccacctt aattttttata taactgtctt tagctcttct     180
tttgacaggg cagg                                                       194


<210> 1532
<211> 300
<212> DNA
<213> Homo sapien


<400> 1532
ccatacaagg taattttgac aggttcctgg gattaggaca tgggcatctt gggaggccac      60
tactggccta ccacaactgg gcagcaaaac tattacaccc tccggtataa tagttttggt     120
gtttcaatga ctgggaggaa aagggttgga attttttgct ttggggtccc tcttaacctt     180
gtattttaa ggtctgggac tcaccaaccc tcccttcca accagagaaa ctcactgcag     240
tatctccttg aaagtctggt gacgagtctg tctaagtgct ggtgagaggc acaggaccaa     300


<210> 1533
<211> 521
<212> DNA
<213> Homo sapien


<400> 1533
gttcctttgc accctgtaga tgttctagga tagttgatgc atgttactaa attacgtatg      60
caagtctgtg agtgcgtctg aggggacatc gccaaggact gactgagaca cgatgccgag     120
acctcaagcc ctgaggggca gtcccaaaac ccttacagtg aagatgttta ctcattgccc     180
ccacctctgg tccacactag aaagaagctc gccccacctc cacctgtgag atccgtgaat     240
tctcggaatg gcaggggaag ccttgcacta ggttgcagag aagcatcctc cacatcctgt     300
gtcagaaacc ctggtctccg tggcacttgt aactcaccgt gctgtcttct ggtctgtgtg     360
```

```
tgttcttcaa gccagctcta ggcttcaggc cgagccaggt tcacactcag aaagatgtct      420
ccccatcccc attcggggct gacgatgggg ggctgatggc tgcccctgcg tggcctgagt      480
cctggtccct ctgaggcagt tgacggggca gtcagatttt t                         521


<210> 1534
<211> 181
<212> DNA
<213> Homo sapien


<400> 1534
actcaagaag atgtatttaa tgcttgacaa taagagaaag gaagtagttc acaaaataat       60
agagttgctg aatgtcactg aacttacccca gaatgccctg attaatgatg aactagtgga      120
gtggaagcgg agacagcaga gcgcctgtat tgggggggccg cccaatgctt gcttggatca      180
g                                                                      181


<210> 1535
<211> 544
<212> DNA
<213> Homo sapien


<400> 1535
aaaataggac actaaatcct actctgaaag gtggtttgat caggactaaa gagaatgtat       60
gtagagtgct ttgtgcaacg aattgtgggg agcttggacc caataaggta gccagaatta      120
cccacaccat catcatcttc accaccatca ttattgttat cgacatattc caatacactt      180
ctgaagggct ggaagagaga aatatgtttg tgcagacagg cggcagcagt atttgatcca      240
ccaccacagc tccaccgctt gggggcagta ctgatccacc tgtgctcccc tccctgcccc      300
agcctggaaa gctaatttca gactcaaaaa aatcaagtac agagcagcgc acccactcca      360
atgagtcatc cccgcccact ctagacaaca gcatgctcat gactcaaact atcttcgtga      420
atggttcaaa atatcaagaa ttggtttcca tagtttcttg actaaccaga cacaaaattt      480
cccctacatg cagagattca tgtctcaact tcaactgtac attaaactca accgggaaac      540
tttt                                                                  544


<210> 1536
<211> 591
<212> DNA
<213> Homo sapien


<400> 1536
ctgagttaag atggtaaagc caatattatt ttaggaggaa agaggacgaa ggccaatgaa       60
ccaacatctg cctgctatct ggtgcatcac ccaaggtgac caatggctgg gcacaaataa      120
acttctcttt tgctagccac agagttgctc actgtggcaa gcctgagctg gtcagaacac      180
ctgtgtgtgt gttcctgata cacactaacc acaataagca agtctgcaca catctctatg      240
agccccatgc aaagacaaga cattcccaaa gatcagtcac tagagtgcaa caacgaaatt      300
caagatttga ccaaaacaga ccctgctgcc tcctaaattg ccaattgcct ctcaaaaact      360
tacagaaaaa gggacattat aagaattcat agagggagag aagaaaaagc tgctactcct      420
agtcattagt acaatgtgct gtgttaatta gatacctcta tataaattag aaaaagtgct      480
ttacttgcat gcttcaataa aatgaatact gagtgtcgta gtgttagatc tgtacagata      540
taaatttttt gcagctatat aaaagtgtat aagatgggct tttgccattt t              591


<210> 1537
<211> 341
<212> DNA
<213> Homo sapien
```

```
<400> 1537
acttcgggcc tccctctccc tgtgcagacc ggttgaataa atgataaaat tactgtttgt          60
gtcctctgtg aagtctggat taatggaaaa aaggatttgt gaggctagtc ttaggctgta         120
gccaatctgg tgtgcttttt gtgtcttcct gtatggttcc atgataagga ggaataacctt        180
aggatagaat gcaagcctag gaccccataa gcctgttgtt caagccaacc agcaaactgg         240
gcagtaacaa acattgctgc aggtttccat tttgtttttac gtccttggga gcttgacctt        300
gtaaccacgt ggcagtacct tcttttggcc tctgccattt t                            341


<210> 1538
<211> 363
<212> DNA
<213> Homo sapien


<400> 1538
ggacctgact ttgagtccat cagagacaaa gtgagtgaga tgcacataca gtgtttccag          60
acctgactca gcccatctgt ctgttaggaa actttatgaa gacgcccccc agaattaaac         120
cctaattcaa atgtctcact ctgaatagag accttctgaa ataatcttgg tatagagacc         180
cagacacgtg ccttttgcct taaaataaaa atatttagcc catgttgttt tatgtatctg         240
tctttcagtt agttttgaag gcccgcacgg aaaagtgggg cctgtgcacc tgaaaagaaa         300
tgtgtatgtt atgtggttgt tggtctttcc tactagagtt atcttgataa ttgtgaagag         360
tgg                                                                       363


<210> 1539
<211> 371
<212> DNA
<213> Homo sapien


<400> 1539
ctgtggggt cctccagag aggagctgag atacgcctac ctggaggggc ccctgggcct           60
ggaggggctc ctcagtgtga ctgggtgaag tgttttcaga ggaccagggt tgaggttggg         120
ggcatctcat ccagaccctg ccggcatctg ccccagaacc caagggcccc tccttcctcc         180
ctcctcaatg gaaatgctgg agatgtcctc agtcaccctc tgagcactca cacatcaccc         240
cttatttgga aatttttctc actctaacct tccttcctgc tgcaccttct gccccatccc         300
caggctctgg cctctctctc tcctcttcta cc ctttagca ggtaatgact cagttcccac         360
tgaggagcca g                                                              371


<210> 1540
<211> 403
<212> DNA
<213> Homo sapien


<400> 1540
ctkgacgtga tggagcaggt gagcagtgcc cgtggggctt gccagagggc tgaggaggac          60
cctctctaac cagctccctg tccccccttct tctgtagctt gagttgaaga agacactgct        120
ggacaggatg gttcacctgc tgagtcgagg ttatgtactt cctgttgtca gttacatccg         180
aaagtgtctg gagaagctgg acactgacat ttcactcatt cgctattttg tcactgaggt         240
cagcaatgca ccgttggttt catgtttcat actgtttaca ctagcactgc ccttttttggc        300
ttaatttagt tcattttgta cctaactgag aactgtgctt tctgatgtag tgatgacaat         360
gacagatact cgttaccaa aaagcacctt ctgcctgcag cag                           403


<210> 1541
<211> 428
<212> DNA
<213> Homo sapien
```

```
<400> 1541
taaaacaaaa ctaaagaaga gaaaatatat tctcgtaaat tatctgaact taaaagatgg      60
aagcctggag atagatttgt gataagccat tgctgagtac atcctagagt tcttgataat     120
ttcagttggt taaattacaa tagtttgcta tttcctccct cacattttat gttctacagt     180
atctagctgc ttgggttttc ctgtatacca tggggcttct gtcatctggg ctttactcag     240
tggcatattc cctctgccta aaactctcct cccctctcca ccttagaagt agcttttcct     300
agaacggttt tcccagggtt tcacctaagg tgatagtaca atctacaggg acctgcacat     360
gaagaccttt gcatacatgc caggaagttg gactttatct ttggaaaaag ggagcctttg     420
aaggtttt                                                              428


<210> 1542
<211> 345
<212> DNA
<213> Homo sapien

<400> 1542
awttaaatgc ttagcaagca gcaattccac gatggtcaaa ttcctaatat gagagaagta      60
gaaataggaa aaataggtca ccctgatact tatgttttca ttttgcttaa tatacgtttg     120
tatatttcaa tataacatta atagatatcg tgtcccttca cagttctaaa gtagtaagca     180
aaatgaatta atttaaccta tgcaattaaa accaatttgg aagaatattg aggtagcaca     240
ctgttacggg aattagtatg actcagtaat gcagttgaaa gttagtggct cctaatccag     300
tatgaatcat ggagatgaga gaaatgatta gataaagaga tattt                     345


<210> 1543
<211> 420
<212> DNA
<213> Homo sapien

<400> 1543
aatattgaat ttctagaagc agtatattgc ttactgcttc ttaattacgt tatagatgag      60
gtggaaatga taaaaactaa agaagcaaga ttaatcttta acacacattt caggctgttg     120
taaaagaata aacaatgctt catataaact tctagcaaat gacttcctaa tgaggtcttg     180
aaacagtctt tagggcacgg aatgtcatca cataattaag cagctttaag cctttattaa     240
aaggcttaaa gtcgcaaaca atgaaatctg aaacaaactg taccatatta aacttttga      300
tgatatttca aattcagtaa aagaaaaaaa ggatggttca gaataacatc acgtattcta     360
atcctgaaac acataacaaa tgcatctgaa acagcaattc ttaaaaaggt tttgcccttt     420


<210> 1544
<211> 306
<212> DNA
<213> Homo sapien

<400> 1544
ctggcttcac tcctactccc tctctgctcg cagcacgtcg gccgccagct ctttgatgtg      60
ttcccaggcc cgctgcacat gggcagattc caccgtgcga gaacagatgg caaagcgcag     120
gacaaacttg tccctgaggt gacatggaac caagtggatt ttttttggcac tgtttattct     180
ttgcagaaga gcttcattca ctttgttgga acccttagc cgaaagcaga caagccccag     240
aatgacttcc acacagattt caaagcgggg atcctggcgc accagtgact caaactcatg     300
ggacag                                                                306


<210> 1545
<211> 110
<212> DNA
```

<213> Homo sapien

<400> 1545
ctgctccggg ccttcatcct gaagatcagc gtgtgcgatg ccgtcctgga ccacaacccc   60
ccaggctgta ccttcacagt cctggtgcac acgagagaag ccgccactcg   110

<210> 1546
<211> 239
<212> DNA
<213> Homo sapien

<400> 1546
aaagaaatat gacacggtgt tggatattct aagagacttt tttgaactca gacttaaata   60
ttatggatta agaaaagaat ggctcctagg aatgcttggt gctgaatctg ctaaactgaa   120
taatcaggct cgctttatct tagagaaaat agatggcaaa ataatcattg aaaataagcc   180
taagaaagaa ttaattaaag ttctgattca gaggggatat gattcggatc ctgtgaagg   239

<210> 1547
<211> 527
<212> DNA
<213> Homo sapien

<400> 1547
aaaaattcca gttgagattt ttctggttct ctgtataaag attgactgga acatatacat   60
tttggggttt atgtttggag actttggctc ttattcaaac cttccatttt agttggcttc   120
ttctgacagt gcttcagcat ggaagcaagg agggggcctc attactgcca ggtaagggta   180
aaaatctagt ttctctgctg ggtctccatt gtcactaaga aaggaatggc tctgttattg   240
ctgggcaggg ttggctgttc caactgataa tcctatgtct gggagggcta ggagtgcctc   300
cttgctgttc ctcttgttgt ttccactgac agtggagtgg ccttgttact gctgggtggt   360
ggttgagagt tctggctctc tactaggag gacacaacct cagtgtagag aggcggggat   420
accttgttac tgtcaggcac aggcggaggt ccagtctcct tactccacct acccaacagg   480
gtagcttgag gcacttcatt attgcctagt gagagtggaa gtttagg   527

<210> 1548
<211> 333
<212> DNA
<213> Homo sapien

<400> 1548
ctgtgggcgg agctagtagg ggcggggcta cgtgattgac acttctctcc tcagacttca   60
agggctacca ctggaccctt cccctgtctt gaaccctgag ccggcaccat gcacggacgc   120
ctgaaggtga agacgtcaga agagcaggcg gaggccaaaa ggctagagcg agagcagaag   180
ctgaagctat accagtcagc cacccaggcc gtattccaga agcgccaggc tggtgagctg   240
gatgagtccg tgctggaact gacaagccag attctgggag ccaaccctga ttttgccacc   300
ctctggaact gccgacgaga ggtgctccag cag   333

<210> 1549
<211> 438
<212> DNA
<213> Homo sapien

<400> 1549
ttgacagtgt acgctggagc aggttccagg gtggggctgc cctgccgcct gcctgctggt   60
gtggggaccc ggtctttcct cactgccaag tggactcctc ctgggggagg ccctgacctc   120

```
ctggtgactg gagacaatgg cgactttacc cttcgactag aggatgtgag ccaggcccag      180
gctgggacct acacctgcca tatccatctg caggaacagc agctcaatgc cactgtcaca      240
ttggcaatca tcacagtgac tcccaaatcc tttgggtcac ctggatccct ggggaagctg      300
ctttgtgagg tgactccagt atctggacaa gaacgctttg tgtggagctc tctggacacc      360
ccatcccaga ggagtttctc aggaccttgg ctggaggcac aggaggccca gctcctttcc      420
cagccttggc aatgccag                                                     438
```

```
<210> 1550
<211> 204
<212> DNA
<213> Homo sapien
```

```
<400> 1550
aaaactaagt tattccaaca ctaaaagcat acaacagcat gccaacagta atatattatt       60
ctccaagact ttacctatgt aagtgttcaa aactctgcag cattaaacaa cgtgtatgca      120
aattgttatg gatacatttc agaatctaag aaatcaggca agtgcttaaa aggccaacgg      180
tccaagggat tacatctgca gttt                                             204
```

```
<210> 1551
<211> 132
<212> DNA
<213> Homo sapien
```

```
<400> 1551
ccatctgtgg atttgtctgt gcacctattg gctcttctag ctgactcttc tggttgggct       60
tagagtctgc ctgtttctgc tagctccgtg tttagtccac ttgggtcatc agctctgcca      120
agctgagcct gg                                                          132
```

```
<210> 1552
<211> 433
<212> DNA
<213> Homo sapien
```

```
<400> 1552
ctgaatagag gtcaacacag ttgcgatgtt gagggatggt ctccaagcac cttttggtgg       60
caatttgaga acatccagac aaatccttcc agcagaatca atgtttggat gataaattgg      120
agtgagaaat cggatctgag gaggttcaaa tgggtacctc tcaggaatga taacttctag      180
cttaaaaaca cctttctcat aaggtgtgtt ggctccacct aatatttgag ctcgcaggtc      240
atccatttgg tctttatctt gccaacatgt gatgcctggg ggtggctctg tggctaacat      300
gtgcagctct ctcttcagac gtgaagctct ctgcatgatc cccaagtaga aggaaccaca      360
cacagttcac tgctccacac taagagctgs ctgggatgca ctgagctgac acccctcaca      420
acgcagcaac gcg                                                         433
```

```
<210> 1553
<211> 316
<212> DNA
<213> Homo sapien
```

```
<400> 1553
gagcaaggtc tgctgagaac agacccagtc cctgaggaag gagaagatgt tgctgccacg       60
atcagtgcca cagagaccct ctcggaagag gagcaggaag agctaagaag agaacttgca      120
aaggtagaag aagaaatcca gactctgtct caagtgttag cagcaaaaga gaagcatcta      180
gcagagatca agcggaaact tggaatcaat tctctacagg aactaaaaca gaacattgcc      240
aaagggtggc aagacgtgac agcaacatct gcttacaaga agacatctga aaccttatcc      300
```

```
caggctggac agaagg                                                    316

<210> 1554
<211> 542
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(542)
<223> n = A,T,C or G

<400> 1554
aaaggaatta ttctggcagc acatgtagta ttcttggatg atcttgctgc tcttatttct    60
ccttttgtgt gtgtgtgtgt gtgtgtggct atgggttttc atttgtaact ccatctgctt   120
argagagtgg gctctctata agggaacctg ctgtaaactt cattgcagca aggatgtaga   180
gagaaatagg acttaattcc actaggggct ctcatctcac accttaagga ggagatttct   240
agaaaaactg ggccagattt tctttgytct ccatcatttt aatgtggcag gctgytcagt   300
tttcttactc ttacctatgw gatatttctt cgtaacgtgt ccaaaaagaa aaaagaccca   360
atcagtgtct cttgactttg ttctttgatc cctcagtttc ttcttgattt cagcatgtgt   420
ccgggttcct aattttgggt atgagttagc aaatttaacc attgtgtttg tgccctaccc   480
aggggactcc ccagtttctg acttgaagta gactganaag aatccacgag gngctatttt   540
gg                                                                  542

<210> 1555
<211> 117
<212> DNA
<213> Homo sapien

<400> 1555
ctgtctgtgg cttcccatgt ctttctccaa agttatccag agggttgtga ttttgtctgc    60
ttagtatctc atcaacaaag aaatattatt tgctaattaa aaagttaatc ttcatgg      117

<210> 1556
<211> 111
<212> DNA
<213> Homo sapien

<400> 1556
ctgctgcagc cgcagtttct catccggagt gtaccccgtc atgtcgccgc tggtaccaac    60
gcaaaaggac acggcgcacc ctcgaactac ggactagtta cttaagcgcg c            111

<210> 1557
<211> 454
<212> DNA
<213> Homo sapien

<400> 1557
cgaggactga tcctctagta ctaagtgact ggggatatta caytarccaa cattggttga    60
tacatacctk artmatcatw tgaggaygca gtgataarsg satawwmywg tatsatccya   120
acaygyacta rctcaaaaac tagtgggggc ggattgatct cctgtgggac wkcacatgsc   180
ctgaaagtga acatgmtcmt ratcacctgc agrgcttgag atggyccmca tkgcwgcact   240
ccgccccyac aktttttgaw tcwacwggag ttaggswgmt yctwgawtta kcctttctac   300
ctgcctccyg akagrwgcwc wygastwgga kgaatssatt gackkctaag rttakacttc   360
```

```
cactaactct gtacgmtgar ctcttactaa tattcgttac cacgctaaga ggctctgctc      420
caggatctca tcgcgactgg aaggaacctc cagc                                   454
```

```
<210> 1558
<211> 404
<212> DNA
<213> Homo sapien
```

```
<400> 1558
aaagaagtgc agttgatatc taatttacac agtgaaacta gtgatagaaa ataactaatg       60
aaaaaaaatc agagactggt ttccaattga ttgacaccta gatctgtcag cctctcttaa      120
agaaaggggga aggagaaaaa aaatctcatc atggaaggca gacaagagtc cacctgacag      180
aggtggaatc tgatggaatc tgaccccatt tcatgataaa cgagaggaaa cataaatgcc      240
atctcaaata ctaaagcgat gtagtgtagc atgagtgact caatgcaaat tcacagagga      300
aaagaagtta cggcttagga agtaggacaa taaatacaaa tatttcatct tatttaatgg      360
tgcatgactt cagtgaaact acccctttgca atgcaataaa tttt                      404
```

```
<210> 1559
<211> 266
<212> DNA
<213> Homo sapien
```

```
<400> 1559
aaactatcag aagagatgag agggaattga tctacaatac tagaatttta tgtgcagaca       60
aatccacatc tggaaatgaa atcacagtaa gatattttcg ggagaccaaa acataaaaat      120
tgctagaata aatttgccac gaacgagtaa ctagacatta gaaattgact acatagatat      180
agtaatacta aaagtgctga aaacaagcaa acacaacaca cacattctca attctttttt      240
tttctatcaa atatcttcaa cttttt                                           266
```

```
<210> 1560
<211> 142
<212> DNA
<213> Homo sapien
```

```
<400> 1560
aaaactcagt atcttctgaa ccagaggcat ttctgattag cccttcccta cctattttcc       60
tagtatcact ctttaatcag cttggggagg tggcagcatt tcatggcctc cgtagtaact      120
cacaatgctt cctggggtat tt                                               142
```

```
<210> 1561
<211> 381
<212> DNA
<213> Homo sapien
```

```
<400> 1561
aaacactaaa tgaagcttct cacaatttct aattataaac aaaaggctga aaacagtatg       60
ggaaacaaag tttcaaaaca aagaaaagtt gagtaaaagg tgccccctct atggctcatc      120
tgaaagaaac attttactca gagaggcaaa catttctgat ctaggagtaa gtttcccact      180
cactttgcaa ggacccactc attctgcaga aagacctaca agtctttctg gtctcaattg      240
caaagtacgt gaaaatgtgt atgaaagatc taaaagctaa atattagaat aaggctaatt      300
gaaatcaaaa ttgtgtgctg gtctaaatat acatcttcgg cttcttcctt tttagtaagt      360
atttttattt cagatgtatt t                                                381
```

```
<210> 1562
```

```
<211> 368
<212> DNA
<213> Homo sapien

<400> 1562
ggagaaagga gaaccgtaca tgagcattca gcctgctgaa gatccagatg attatgatga      60
tggctttca atgaagcata cagccaccgc ccgtttccag agaaaccacc gcctcatcag      120
tgaaattctt agtgagagtg tggtgccaga cgttcggtca gttgtcacaa cagctagaat      180
gcaggtcctc aaacggcagg tccagtcctt aatggttcat cagcgaaaac tagaagctga      240
acttcttcaa atagaggaac gacaccagga gaagaagagg aaattcctgg aaagcacaga      300
ttcatttaac aatgaactta aaaggttgtg cggtctgaaa gtagaagtgg atatggagaa      360
aattgcag                                                             368

<210> 1563
<211> 411
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

<400> 1563
accwtrsaac tgcawttatt acctatgcta gntttggata agaamtgkyc wtayatgtga      60
kagcaagagg gcacyaraws wrcttsaaca ccaawgggcm ktactwtata kawmcgawgg      120
gcatgctwtm atgaccaact grmtgactgt ttgagaatgg acaargtgct agcgctaaac      180
ctgtccttct tgaacrtggc ttgactaacg kcwttgatac gttrccttca kkasaatact      240
attactasac tttgktgctt gattaccgac tggtgcactc ttgmtctcac ctatgargac      300
agtgctttac acaaactcrt akggaaaatt gnntttgtmc tgtganctac tcatcygaga      360
nctccctaag ggctaacatt ncatgtttcc gtctcactag ctacacgttc t             411

<210> 1564
<211> 602
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(602)
<223> n = A,T,C or G

<400> 1564
ctagttttaa gatcagagtt cactttcttt ggactctgcc tatattttct tacctgaact 60
tttgcaagtt ttcaggtaaa cctcagctca ggactgctat ttagctcctc ttaagaagat 120
taaaagagaa aaaaaaaggc ccttttaaaa atagtataca cttattttaa gtgaaaagca 180
gagaatttta tttatagcta attttagcta tctgtaacca agatggatgc aaagaggcta 240
gtgcctcaga gagaactgta cggggtttgt gactggaaaa agttacgttc ccattctaat 300
taatgccctt tcttatttaa aaacaaaacc aaatgatatc taagtagttc tcagcaataa 360
taataatgac gataatactt cttttccaca tctcattgtc actgacattt aatggtactg 420
tatattactt aatttattga agattattat ttatgtctta ttaggacact atggttataa 480
actgtgttta agcctacaat cattgatttt tttttgttat gtcacaatca gtatattttc 540
```

```
tttggggtta cctctctgaa tattatgtaa acaatccaaa gaaatgattg tattaannat 600
tt                                                                602
```

```
<210> 1565
<211> 473
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> misc_feature
<222> (1)...(473)
<223> n = A,T,C or G
```

```
<400> 1565
ctagtccagt gtggtggaat tcatccaggg ggctacccct ggctctctgt tgccagtggt 60
catcatcgca gtgggtgtct tcctcttcct ggtggctttt gtgggctgct gcggggcctg 120
caaggagaac tattgtctta tgatcacgtt tgccatcttt ctgtctctta tcatgttggt 180
ggaggtggcc gcagccattg ctggctatgt gttnagagat aaggtgatgt cagagtttaa 240
taacaacttc cggcagcaga tggagaatta cccgaaaaac aaccacactg nttcnatcct 300
ggacaggatg caggcagatt ttaagtgctg tggggctgct aactncacag attgggagaa 360
aatcccttcc atgtngaaga accgagtccc cgactcctgc tgcattaatg ttactgtggg 420
ctgtgggatt aatttcaacg anaaggcgat ccataaggag ggctgtgtgg aga        473
```

```
<210> 1566
<211> 53
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> misc_feature
<222> (1)...(53)
<223> n = A,T,C or G
```

```
<400> 1566
ctagttatta atagnaatca attncggngt cattagttca tagcccatat atg        53
```

```
<210> 1567
<211> 136
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> misc_feature
<222> (1)...(136)
<223> n = A,T,C or G
```

```
<400> 1567
ttattgattt tttttttca ctttccccat cacactcaca cgcacgctca cacttttat 60
ttgccataat gaaccgtcca gcccctgtgg ngatctccta tganaacatg cgttttntga 120
taactnacaa ccctac                                                 136
```

```
<210> 1568
<211> 192
<212> DNA
```

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(192)
<223> n = A,T,C or G

<400> 1568
ttgngtctgt gtgagnnggt tgaccttcct ccatcccctg gtccttcnct tnccttnccg 60
aggcacagag agacagggca gnatccacgt ncccattntg gaggcagana aaagagaaag 120
tgntttatat acggtactta tttaatatcc ntttntaatt anaaantnaa acagttaatt 180
taattaaaga gt   192

<210> 1569
<211> 575
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(575)
<223> n = A,T,C or G

<400> 1569
ctagttctgt cccccagga gacctggttg tgtctgtgtg agtggttgac cttcctccat 60
cccctggtcc ttccttccc ttcccgaggc acagagagac agggcaggat ccacgtgccc 120
attgtggagg cagagaaaag agaaagtgtt ttatatacgg tacttattta atatcccttt 180
ttaattagaa attaaaacag ttaatttaat taaagagtag ggtttttttt cagtattctt 240
ggttaatatt taatttcaac tatttatgag atgtatcttt tgctctctct tgctctctta 300
tttgtaccgg tttttgtata taaaattcat gtttccaatc tctctctccc tgatcggnga 360
cagtcactag cttatcttga acagatattt aattttgcta acactcagct ctgccctccc 420
cgatcccctg gctccccagc acacattcct ttgaaataag gtttcaatat acatctacat 480
actatatata tatttggcaa cttgnatttg ngngtatata tatatatata tgtttatgta 540
tatatgngat tctgataaaa tagacattgc tattc   575

<210> 1570
<211> 392
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

<400> 1570
ctagtccagn gtggtggaat tccgccgcca tcatgggtcg catgcatgct cccgggaagg 60
gcctgtccca gtcggcttta ccctatcgac gcagcgtccc cacttggttg aagntgacat 120
ctgacgacgt gaaggagcag atttacaaac tggccaagaa gggccttact ccttcacaga 180
tcggtgtaat cctgagagat tcacatggtg ttgcacaagt acgttttgtg acaggcaata 240
aaatttaag aattcttaag tctaagggac ttgctcctga tcttcctgaa gatctctacc 300
atttaattaa gaaagcagtt gctgttcgaa agcatcttga gaggaacaga aaggataagg 360
atgctaaatt ccgnctgatt ctaatagaga gc   392

```
<210> 1571
<211> 390
<212> DNA
<213> Homo sapiens

<400> 1571
gaaggacgtt tgtgttggaa gccctggtat ccccggcact cctggatccc acggcctgcc 60
aggcagggac gggagagatg gtgtcaaagg agaccctggc cctccgggcc ccatgggtcc 120
acctggagaa atgccatgtc ctcctggaaa tgatgggctg cctggagccc ctggtatccc 180
tggagagtgt ggagagaagg gggagcctgg cgagaggggc cctccagggc ttccagctca 240
tctagatgag gagctccaag ccacactcca cgactttaga catcaaatcc tgcagacaag 300
gggagccctc agtctgcagg gctccataat gacagtagga gagaaggtct tctccagcaa 360
tgggcagtcc atcactttg atgccattca                                  390


<210> 1572
<211> 383
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(383)
<223> n = A,T,C or G

<400> 1572
ctgcagcttc tgctgctgag gccgggattg ctacgactgg gactgaaggt gaaagaggtg 60
gaatccgaag tcctgggact gcgggatgct aaacattgaa agctgggtgt aggcactgca 120
gggagagtgt ggaggtctga cagggtagga atatgtggga gggctgggct aggaatggcc 180
ttggaggctg gcctgtgtgg atatggcacc aattctaccc tgctcctctt ttcctttcc 240
cagactcaga cgatgccctg ctgaagatga ccatcagcca gcaagagttt ggccgcactg 300
ggcttcctga cctaagcagt atgactgagg aagagcagat tgcttatgcc atgcagatgt 360
ccctgcangg gagcagagtt tgg                                        383


<210> 1573
<211> 149
<212> DNA
<213> Homo sapiens

<400> 1573
cctccagagc ctctctagtg gcagagcagc tcacactccc tccgctggga acgatggctt 60
ctgcctagta cctatccttg tgtttctgat gcagtggtag cattggttca agttctctcc 120
tgctgtggtc agagttgctt cgatgttgg                                  149


<210> 1574
<211> 143
<212> DNA
<213> Homo sapiens

<400> 1574
ctgccaggct gaaaagaagc ctcagctccc acaccgccct cctcaccgcc cttcctcggg 60
agtcacttcc actggtggac cacgggcccc cagccctgtg tcggccttgt ctgtctcagc 120
tcaaccacag tctgacacca gag                                        143


<210> 1575
```

<211> 112
<212> DNA
<213> Homo sapiens

<400> 1575
ctgcatccac cctctttcag ggggtagagc cactatactt ctcatgtaga tcagccacat 60
tgtcactgga gactcggatc cagccatcct cccgcacgtg gtagaggttg ac   112

<210> 1576
<211> 198
<212> DNA
<213> Homo sapiens

<400> 1576
ccagtatgtc cccaggatta tgtttgttga cccatctctg acagttagag ccgatatcac 60
tggaagatat tcaaatcgtc tctatgctta cgaacctgca gatacagctc tgttgcttga 120
caacatgaag aaagctctca agttgctgaa gactgaattg taaagaaaaa aaatctccag 180
gcccttctgt ctgtcagg   198

<210> 1577
<211> 444
<212> DNA
<213> Homo sapiens

<400> 1577
cctgcctgga gccccagatc accccttcct actacaccac ttctgacgct gtcatttcca 60
ctgagaccgt cttcattgtg gagatctccc tgacatgcaa gaacagggtc cagaacatgg 120
ctctctatgc tgacgtcggt ggaaaacaat tccctgtcac tcgaggccag gatgtggggc 180
gtcatcaggt gtcctggagc ctggaccaca agagcgccca cgcaggcacc tatgaggtta 240
gattcttcga cgaggagtcc tacagcctcc tcaggaaggc tcagaggaat aacgaggaca 300
tttccatcat cccgcctctg tttacagtca gcgtggacca tcggggcact tggaacgggc 360
cctgggtgtc cactgaggtg ctggctgcgg cgatcggcct tgtgatctac tacttggcct 420
tcagtgcgaa gagccacatc cagg   444

<210> 1578
<211> 294
<212> DNA
<213> Homo sapiens

<400> 1578
ccacaaagcc attgtatgta gctttagctc agcgcaaaga agagcgccag gctcacctca 60
ctaaccagta tatgcagaga atggcaagtg tacgagctgt gcccaaccct gtaatcaacc 120
cctaccagcc agcacctcct tcaggttact tcatggcagc tatcccacag actcagaacc 180
gtgctgcata ctatcctcct agccaaattg ctcaactaag accaagtccc cgctggactg 240
ctcagggtgc cagacctcat ccattccaaa atatgcccgg tgctatccgc ccag   294

<210> 1579
<211> 295
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(295)

<223> n = A,T,C or G

<400> 1579
ccacaaagcc attgtatgta gctttagctc agcgcaaaga agagcgccag gctcacctca 60
ctaaccagta tatgcagaga atggcaagtg tacgagctgt gcccaaccct gtaatcaacc 120
cctaccagcc agcacctcct tcaggttact tcatggcagc tatcccacag actcanaacc 180
nngctgcata ctatcctcct agccaaattg ctcaactaag accaagtccc cgctggactg 240
ctcagggngc cagacctcat ccattccaaa aatatgcccg gtgctatccg cccag 295

<210> 1580
<211> 166
<212> DNA
<213> Homo sapiens

<400> 1580
cttctttatt ggggacatgt gggctggaac agcagatttc agctacatat atgaacaaat 60
cctttattat tattataatt attttttgc gtgaaagtgt tacatattct ttcacttgta 120
tgtacagaga ggttttctg aatatttatt ttaagggtta aatcac 166

<210> 1581
<211> 449
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(449)
<223> n = A,T,C or G

<400> 1581
ctgaggcaac agaataaatg cagaggcatt acaatgaatc ccacttaata taaagaacta 60
tacagaccaa cacttctcta caaaattttt ttttcctcat tgccagttaa atacagagtt 120
ttactttcat agcttaacaa tgaagggtca tacactgaag ccaatacata tacctagcat 180
ttcagtctaa gcttgtccac gtacatagct gaagtcaatt acaaggtttg gcctagaaat 240
gctaggggaa cttctttgta gtttttacag gtattaaact tcatcttgca cactgaagtc 300
atcatacata cagggcaaaa tcagagcttt tatatttgcg tttattcttc atttaacttt 360
ttataacact actatagttt attaaaacaa aaaacaaaga gcaagtagtg agcatattan 420
gattacagtc ctttcactca ttcacacct 449

<210> 1582
<211> 302
<212> DNA
<213> Homo sapiens

<400> 1582
ccaatgggct ttgctgtagc ttgctgaaat caccaagcag gagagattta accagaggcg 60
atgtgtccag tcaccagcat agagccatcc tctgtgtcac catccacacg cagggccttc 120
tggcagacct catgcaatgc cctccatgtt aatattcatc agaaaatgga taattagggg 180
ggccagcaaa aatatcaagg gtcaaatatc gcacatttct gtttaggcca tctatggctt 240
tcatctcctc tgaagtcaac tggaattcaa acacctgcac gttctgtctg atgcgctgct 300
ca 302

<210> 1583
<211> 170

```
<212> DNA
<213> Homo sapiens

<400> 1583
ttcctgctcc gtgggaacca cgagtgtgcc agcatcaacc gcatctatgg tttctacgat 60
gagtgcaaga gacgctacaa catcaaactg tggaaaacct tcactgactg cttcaactgc 120
ctgcccatcg cggccatagt ggacgaaaag atcttctgct gccacggagg         170


<210> 1584
<211> 368
<212> DNA
<213> Homo sapiens

<400> 1584
ccagacgtgg tggctcacac ctgcagtccc agcaccttag gaggccgagg caggaggatc 60
cttgaggtca ggagttcgag accagcctcg ccaacatggt gaaaccccat ttctactaaa 120
aatacaaaaa attagccaag tgtggtggca tatgcctgta atcccaacta ctcagaaggc 180
cgaggcagga gaattacttg aacgcaggag aatcactgca gcccaggagg cagaggttgc 240
agtgagccga gattgcacca ctgcactcca gcctgggtga cagagcaaga ctccatctca 300
gtaaataaat aaataaataa aaagcgctgc agtagctgtg cctcaccct gaagtcagcg 360
ggcccagg                                                        368


<210> 1585
<211> 392
<212> DNA
<213> Homo sapiens

<400> 1585
caaccctctc tcctcagcgc ttcttctttc ttggtttgat cctgactgct gtcatggcgt 60
gccctctgga gaaggccctg gatgtgatgg tgtccacctt ccacaagtac tcgggcaaag 120
agggtgacaa gttcaagctc aacaagtcag aactaaagga gctgctgacc cgggagctgc 180
ccagcttctt ggggaaaagg acagatgaag ctgctttcca gaagctgatg agcaacttgg 240
acagcaacag ggacaacgag gtggacttct aagagtactg tgtcttcctg tcctgcatcg 300
ccatgatgtg taacgaattc tttgaaggct cccagataa gcagcccagg aagaaatgaa 360
aactcctctg atgtggttgg ggggtctgcc ag                              392


<210> 1586
<211> 158
<212> DNA
<213> Homo sapiens

<400> 1586
cctccactgc cagcctatgg ttgttcgcca ccaagccagg agtgctgcac cgcccagtgg 60
tccccctcgg gctccaggcc cccactgaga ccctctcgga ggcagaagca cttcacccct 120
cagagtccta caagtccaac cagtggacct ggaattgg                        158


<210> 1587
<211> 85
<212> DNA
<213> Homo sapiens

<400> 1587
ccaatgtaca tggtggacta tgccggcctg aacgtgcagc tcccgggacc tcttaattac 60
tagacctcag tactgaatca ggacc                                      85
```

<210> 1588
<211> 369
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(369)
<223> n = A,T,C or G

<400> 1588
ccaggctacc ttcccactgg agacaggcag ggggacaggt gctaagggac ctggcaggca 60
gggctggcag gccccatggc gcctgttcca gcagatgaca agcccaggtc agggtagagc 120
gggcaggagg ggggacgagg gctcccacaa catgattttg tgtaaaatat ggcagcgaca 180
cacgctcagg gccgggaggt gggggttagg gtggggacgg cggcaacatc gtgtaaaaaa 240
gtgtcccagt tcccatagca aagagagctg tgaccgggtg ttcagagctt ctccagtaca 300
aggggggaaag ccgcccggcg ggggcggcgg gcagggacat catttggttt cctggtgctg 360
tcngtccga   369

<210> 1589
<211> 361
<212> DNA
<213> Homo sapiens

<400> 1589
ctgtagcttc tgtgggactt ccactgctca ggcgtcaggc tcagatagct gctggccgcg 60
tacttgttgt tgctttgttt ggagggtgtg gtggtctcca ctcccgcctt gacggggctg 120
ctatctgcct tccaggccac tgtcacggct cccgggtaga agtcacttat gagacacacc 180
agtgtggcct tgttggcttg aagctcctca gaggagggcg ggaacagagt gaccgagggg 240
gcagccttgg gctgacccag gacggtcagc ttggtccctc cgccgaacag tacaaaggga 300
ctcaggctgt tatcatagga ctggcagtaa taatcagcct catcttcagc ctggagccca 360
g   361

<210> 1590
<211> 434
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(434)
<223> n = A,T,C or G

<400> 1590
ctggagaagg tgtgcagggg aaaccctgct gatgtcaccg aggccaggtt gtctttctac 60
tcgggacact cttcctttgg gatgtactgc atggtgttct tggtgctgta tgtgcaggca 120
cgactctgtt ggaagtgggc acggctgctg cgacccacag tccagttctt cctggtggcc 180
tttgccctct acgtgggcta cacccgcgtg tctgattaca aacaccactg gagcgatgtc 240
cttgttggcc tcctgcaggg ggcactggtg ctgccctca ctgtctgcta catctcagac 300
ttcttcaaag cccgaccccc acagcactgt ctgaaggagg aggagctgga acggaagccc 360
agcctgtcac tgacgttgac cctgggcgag gctgacnaca accactatgg atacccgcac 420
tcctcctcct gagg   434

```
<210> 1591
<211> 439
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(439)
<223> n = A,T,C or G

<400> 1591
gctttcgcca gaaatgttg  catgtcaaac aatatgtgat ccatactgtg tgtcgtcctt 60
gggggtttat ttgactttgt cacaatgaca gccaacagtg agactgataa gcctgtaaaa 120
ataaaaaaat aagactaatc aaatagacat ggcattttaa tctcaaagtg caaaatcatc 180
taactgaaaa tgacggcatt gagaaattcc agtggttaaa aatgaatcaa aacttcatta 240
cgcaggcagt ggaagtgtgt tgaaagattt accaggggtg tcaagtttta gacactcaga 300
aaggcaccat tctagccatc ttgattggat aacatgtata tacttatgtc cctacgatat 360
tcaaaagata atactgtttt agtacaaaac aatcaaacaa ggcaaagant caaaaccaag 420
ccaacccaaa tatccccag                                              439


<210> 1592
<211> 74
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(74)
<223> n = A,T,C or G

<400> 1592
ttttttttc taatgttcac agtccctgct ttatttccat ttgttcacac acnctttaaa 60
aaaaaaaaaa aaaa                                                   74


<210> 1593
<211> 288
<212> DNA
<213> Homo sapiens

<400> 1593
ccatccgaag caagattgca gatggcagtg tgaagagaga agacatattc tacacttcaa 60
agctttggtg caattcccat cgaccagagt tggtccgacc agccttggaa aggtcactga 120
aaaatcttca attggattat gttgacctct accttattca ttttccagtg tctgtaaagc 180
caggtgagga agtgatccca aaagatgaaa atgaaaaat actatttgac acagtggatc 240
tctgtgccac gtgggaggcc gtggagaagt gtaaagatgc aggattgg            288


<210> 1594
<211> 455
<212> DNA
<213> Homo sapiens

<400> 1594
ccacacagac tcaccaagcc acagacttgt cttccacaag cacgttctta ccttagccac 60
gaagtgacca agccacacgt actaaaggtt gaactcaaag atatgtacag ggtattaaac 120
```

```
aaataccaag gggaacagtt aacttcaata caaggtcaaa atcagcaaca agttctacaa 180
tccagtgctg atatcagata caagcttcaa ggacaatttc ttttcgaagg cttattccag 240
tttcgtgagg ctagcatgag gtgtgtgcat ttgccagggg caaatttcta ttctcaatta 300
acccatgcag caaatgctac gcatctgctg agtccgttta gaagcatttg cggtggacga 360
tggaggggcc cgactcgtcg tactcctgct tgctaatcca catctgctgg aaggtggaca 420
gtgaggccag gatggagcca ccgatccaca ccgag                            455
```

<210> 1595
<211> 367
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(367)
<223> n = A,T,C or G

<400> 1595
```
ccaggctacc ttcccactgg agacaggcag ggggacaggt gctaagggac ctggcaggca 60
gggctggcag gccccatggc gcctgttcca gcagatgaca agcccaggtc agggtagagc 120
gggcaggagg ggggacgagg gctcccacaa catgattttg tgtaaaatat ggcagcgaca 180
cacgctcagg gccgggaggt gggggttagg gtggggacgg cggcaacatc gtgtaaaaaa 240
gtgtcccagt tcccatagca aagagagctg tgaccgggtg ttcgagcttc tccagtacaa 300
gggggaaagc cgcccggcgg gggcggcggg cagggacatc atttggtttc ctggtgctgn 360
cagtccg                                                          367
```

<210> 1596
<211> 193
<212> DNA
<213> Homo sapiens

<400> 1596
```
ctgttcttca tgcgcctggt ggggaagacg cccattgaga cactgatcag agacatgctg 60
ctgtcgggga gtaccttcaa ctggccctac ggctcgggcc agtgaccatg acggggccac 120
gtgtgctgtg gccaggcctg cagacagacc tcaagggaca gggaatgctg aggccccggg 180
aggcccctcg agg                                                   193
```

<210> 1597
<211> 145
<212> DNA
<213> Homo sapiens

<400> 1597
```
ccatgctgga tgttctgctg cttagacctg atctgctgcc aattaccagg ggcaggtcaa 60
ggatgacctt cttggatcca ggaacgctaa catagatcag taaggaatat tcaactcgaa 120
ggatgttgca gcccaggata gaagg                                      145
```

<210> 1598
<211> 445
<212> DNA
<213> Homo sapiens

<400> 1598
```
ctgcctataa aactagactt ctgacgctgg gctccagctt cattctcaca ggtcatcatc 60
```

```
ctcatccggg agagcagttg tctgagcaac ctctaagtcg tgctcatact gtgctgccaa 120
agctgggtcc atgacaactt ctggtggggc gagagcaggc atggcaacaa atcccaagtt 180
agggtctcca atgagcttcc tagcaagcca gaggaagggc ttttcaaagt tgtagttact 240
tttggcagaa atgtcgtagt actgaagatt cttctttcgg tggaagacaa tggatttcgc 300
cttcactttc ctgtccttaa tatccacttt gttgccacac aacacaatgg ggatgttttc 360
acacactcgt accagatctc tatgccagtt aggcacattc ttgtaagtaa ctctcgatgt 420
tacatcaaac attatgatgg cacac                                      445
```

```
<210> 1599
<211> 142
<212> DNA
<213> Homo sapiens
```

```
<400> 1599
cctgccccag ggggaagcac ggacccgaga cgacggcgat gaggaagggc tcctgacaca 60
cagcgaggaa gagctggaac acagccagga cacagacgcg gatgatgggg ccttgcagta 120
agcagcctga caggagcaat gg                                         142
```

```
<210> 1600
<211> 297
<212> DNA
<213> Homo sapiens
```

```
<400> 1600
cctgcacttg aacatggctt tggtttttaag caacttctct accctgaccc tcctcctggg 60
acagcgtttc gggaggtttc ttggcctcac tgagagggat gtggagctgc tgtaccccgt 120
caaggagaag gtattctaca gcctgatgag ggagagcggc tacatgcaca tccagtgcac 180
caagcctgac accgtaggct ctgctctgaa tgactctcct gtgggtctgg ctgcctatat 240
tctagagaag ttttccacct ggaccaatac ggaattccga tacctggagg atggagg    297
```

```
<210> 1601
<211> 289
<212> DNA
<213> Homo sapiens
```

```
<400> 1601
ctggagatga tcctcaacaa gccagggctc aagtacaagc ctgtctgcaa ccaggtggaa 60
tgtcatcctt acttcaacca gagaaaactg ctggatttct gcaagtcaaa agacattgtt 120
ctggttgcct atagtgctct gggatcccac cgagaagaac catgggtgga cccgaactcc 180
ccggtgctct tggaggaccc agtcctttgt gcctcggcaa aaaagcacaa gcgaacccca 240
gccctgattg ccctgcgcta ccagctacag cgtggggttg tggtcctgg             289
```

```
<210> 1602
<211> 398
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> misc_feature
<222> (1)...(398)
<223> n = A,T,C or G
```

```
<400> 1602
gggagggcag agggagaatg ggaagatcag gaagctctag attacttcag tgataaagag 60
```

```
tctggaaaac aaaagtttaa tgattcagaa ggggatgaca cagaggagac agaggattat 120
agacagttca ggaagtcagt cctcgcagat cagggtaaaa gttttgctac tgcatctcac 180
cggaatactg agaaggaagg actcaagtac aagtccaaag tttcactgaa aggcaataga 240
gaaagtgatg gatttagaga agaaaaaaat tatnaactta aagagactgg atatgtagtg 300
gaaaggccta gnactacaaa agataagcnc anagaagaag acaaaaattc tgaaagaata 360
acagtaanga aagaaactca gtcacctgag caggtaaaa                         398
```

<210> 1603
<211> 438
<212> DNA
<213> Homo sapiens

<400> 1603
```
ctggtgatct gctttcttac cctaactctt gacaaatgag tcgtctacta ttttaaagag 60
tctggaggtc tctgactctg ccataacaat aacctgctgt taatttataa cacagatttt 120
tgtttggaag agccttattt gaaatacact ttgattcatt ttcttaaata tttatattct 180
tttcttgctt acttcagggt tggtagctta gttggaagtg ccagcacctg gcacctattc 240
atatagaaca ggctgtactc aagacaactt ctagcattta ctttaagact tatataattt 300
atttctattt tgtgtgtact atagtcttgt gcatatgtag ttgaacacac agtgaaatat 360
atgtctctct ttgtggatgt gcggcctaaa aatttgaatg tctggtgaga gagagccatg 420
tgtataggtc agagaaaa                                                438
```

<210> 1604
<211> 297
<212> DNA
<213> Homo sapiens

<400> 1604
```
cctgcacttg aacatggctt tggttttaag caacttctct accctgaccc tcctcctggg 60
acagcgtttc gggaggtttc ttggcctcac tgagagggat gtggagctgc tgtaccccgt 120
caaggagaag gtattctaca gcctgatgag ggagagcggc tacatgcaca tccagtgcac 180
caagcctgac accgtaggct ctgctctgaa tgactctcct gtgggtctgg ctgcctatat 240
tctagagaag ttttccacct ggaccaatac ggaattccga tacctggagg atggagg     297
```

<210> 1605
<211> 451
<212> DNA
<213> Homo sapiens

<400> 1605
```
ggaaaggcta ttgtttctcg acagtttgtg gaaatgaccc gaactcggat tgagggctta 60
ttagcagctt ttccaaagct catgaacact ggaaacaac atacgtttgt tgaaacagag 120
agtgtaagat atgtctacca gcctatggag aaactgtata tggtactgat cactaccaaa 180
aacagcaaca ttttagaaga tttggagacc ctaaggctct tctcaagagt gatccctgaa 240
tattgccgag ccttagaaga gaatgaaata tctgagcact gtttttgattt gatttttgct 300
tttgatgaaa ttgtcgcact gggataccgg gagaatgtta acttggcaca gatcagaacc 360
ttcacagaaa tggattctca tgaggagaag gtgttcagag ccgtcagaga gactcaagaa 420
cgtgaagcta aggctgagat gcgtcgtaaa g                                 451
```

<210> 1606
<211> 272
<212> DNA
<213> Homo sapiens

<400> 1606
ccggagccca cggtggtcat ggctgccaga gcgctctgca tgctgggggct ggtcctggcc 60
ttgctgtcct ccagctctgc tgaggagtac gtgggcctgt ctgcaaacca gtgtgccgtg 120
ccagccaagg acagggtgga ctgcggctac ccccatgtca cccccaagga gtgcaacaac 180
cggggctgct gctttgactc caggatccct ggagtgcctt ggtgtttcaa gcccctgcag 240
gaagcagaat gcaccttctg aggcacctcc ag 272

<210> 1607
<211> 444
<212> DNA
<213> Homo sapiens

<400> 1607
ccaggctggt ctcaaactcc tcacctcaac tgatccgccc accttggcct cccaaagtgc 60
tgggattata ggtgtgagcc accgtgccca agttaagta ttttttgatca agtgttttgt 120
cttttgtgca aggcatttgt ggctctgtca tagcagagga aaacaaaaca tgcctatcaa 180
atgaatcaag tccgacctct tctcatattg agcaactaga ggtctaggaa catttcccct 240
acctgtcatt ctcatctggc ataccaggtg tacatactcc ttcttattct cctctgttac 300
caagatgttg gccccattgg gtttgaggtc acgaacttca caaactccaa actcttggac 360
ctcagtgctg aaggtgaggt catagcctag tgtggagaca tcattttcca gcagataaac 420
cagaccttgg tagaagtggt aatc 444

<210> 1608
<211> 189
<212> DNA
<213> Homo sapiens

<400> 1608
caaaatccaa aacttctctt gaaaagttca gggaccgtcc aggggagatg gggaggagat 60
atggagtgag tcacctgctc cagaagatgc cagcttctct ctccagggtg cttagttggc 120
tttgcccacc cctcactccc cagggagctc tggggacagc ttcctcgcac ccctgtccca 180
cccacacag 189

<210> 1609
<211> 426
<212> DNA
<213> Homo sapiens

<400> 1609
cttttgttat ccttagagga ctcactggtt tcttttcata agcaaaaagt acctcttctt 60
aaagtgcact ttgcagacgt ttcactcctt ttccaataag cttgagttag gagctttac 120
cttgtagcag agcagtatta acacctagtt ggttcacctg gaaaacagag aggctgaccg 180
tggggctcac catgcggatg cgggtcacac ggaatgctgg agagatgtta tgtaatatgc 240
tgaggtggcg acctcagtgg agaaatgtaa agactgaatt gaattttaag ctaatgtgaa 300
atcagagaat gttgtaataa gtaaatgcct taagagtatt taaaatatgc ttccacattt 360
caaaatataa aatgtaacat gacaagagat tttgcgtttg acattgtgtc tgggaaggaa 420
gggcca 426

<210> 1610
<211> 447
<212> DNA
<213> Homo sapiens

<400> 1610

```
cagggctata gtgcgctatg ttgatctggt gttcatgcta agttccgcat caatatggtg 60
acttcttggg agtggggggac caccaggttg cctaaggagg ggtgaacctg cctacgttgg 120
aaatagagct ggtcaaaact cctgtgctca tcagtagtag aattgcacct gtgaatagcc 180
accgccctcc agcatgggca acatagcaag accctgcctc ttaagataaa aattggaaaa 240
cactggtagg aaaaaaaggc tgtttggtct aaataagtct ggattgggta taaatgacac 300
aaaactatca tgaatttgaa agcatttcta atttcttgaa agtctgaaaa agtttaaaca 360
gaattttagc tgaaaagtcc tgaaagacat ttgaaaaaaa acagcaagaa cacttaaaac 420
tattcaaggt ttgggctggg cacagtg                                      447
```

<210> 1611
<211> 238
<212> DNA
<213> Homo sapiens

<400> 1611
```
ccaccggggt tgacctctct cgctagcagg gcccacccag ctcactcccc gcgtcttcca 60
tcccctctag gattcccatt gtcccctact ccagcactag gcaggcaccc ccagcccact 120
gcgactccca ccacgaagga ccccagccct ctctcagcca acacggcccc gcccaccgtc 180
tcagacatcg tgcttcttct ggtgggccag gagtctctcc tcgtcgtcga aggtctgg   238
```

<210> 1612
<211> 293
<212> DNA
<213> Homo sapiens

<400> 1612
```
ctgctgcttg tatcctcggg agagggtttc ccactctgag cgggtgggaa ggcaatgcca 60
aacatccggg aaaaataaaa ccactgtctc cacatgagct ggaactgtac gccccttgtg 120
ggtctcctca gggcgatggt agcgaatctc tgcaaaacgg taccattgtg tgcacacact 180
tagatcaatg cctgtcagag ccttacaaca acgaatagca gtcttaatca acacagaggg 240
atcttttttct gggtctggtc catccaacga aggagaccag tggcccccaa tgg        293
```

<210> 1613
<211> 224
<212> DNA
<213> Homo sapiens

<400> 1613
```
ctggattgac cccaaccaag gctgcaacct ggatgccatc aaagtcttct gcaacatgga 60
gactggtgag acctgcgtgt accccactca gcccagtgtg gcccagaaga actggtacat 120
cagcaagaac cccaaggaca agaggcatgt ctggttcggc gagagcatga ccgatggatt 180
ccagttcgag tatggcggcc agggctccga ctctgccgat gtgg                   224
```

<210> 1614
<211> 439
<212> DNA
<213> Homo sapiens

<400> 1614
```
ctccaccctg gcgatggctc cctggtccta ctttctctct caaactggct ttttctcatt 60
cctttgactc cgccagactt cctcgccccc atgacctggt gttgtgtctg atcaccccaa 120
cattcctggc tgcccaatgt ggggcaatga agaccccagt gaaggaatgc tagagtgtgt 180
gaaagtggag gacgcatcgt caaaggacac ctgaggacgt ctcaaagaag ctcggcggga 240
gagctgagcg ctcggaagaa ccaagaatca tctcttttga aaaatcgatt catcaaatga 300
```

```
atcttcggcc aacaactgtt caagaaggat tcaaatatca caggttccaa gaagtaaagc 360
tttggaggtc acaaaattag caatagaagc tgggttccgc catatagatt ctgctcattt 420
atacaaataa tgaggagca                                               439
```

<210> 1615
<211> 237
<212> DNA
<213> Homo sapiens

<400> 1615
```
aggcactcct ggaagtggtt cagtcaggtg gcaaaaacat tgaacttgct gtcatgaggc 60
gagatcaatc cctcaagatt ttaaatcctg aagaaattga gaagtatgtt gctgaaattg 120
aaaaagaaaa agaagaaaac gaaaagaaga aacaaaagaa agcatcatga tgaataaaat 180
gtctttgctt gtaattttta aattcatatc aatcatggat gagtctcgat gtgtagg    237
```

<210> 1616
<211> 266
<212> DNA
<213> Homo sapiens

<400> 1616
```
ctgggctcta gtttcattcc atctgtcatt ctcaggtaac agggacacat gtccaagtgt 60
tggcccccgt ggcatgattg tagctttgtt gataggcatt gcatcttttg tgtaatatgc 120
aataatggca tgaccagatt catgatatgc tgtgatggtt ttgtttttgt tatcaatttc 180
cacacttctt ctttcaggcc ccattagaat tttgtctttg gaaaactcca gctccttcat 240
ggtaaccatt tcttttccat caacag                                       266
```

<210> 1617
<211> 185
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(185)
<223> n = A,T,C or G

<400> 1617
```
ccatggctag gtttatagat agttgggtgg ttggtgtaaa tgagtgaggc aggagtccga 60
gnaggttagt tgtggcaata aaaatgatta aggatactag tataagagat caggttcgtc 120
ctttagtgtt gtgtatggtt atcatttgtt ttgaggttag tttgattagt cattgttggg 180
tggtg                                                              185
```

<210> 1618
<211> 354
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(354)
<223> n = A,T,C or G

<400> 1618

```
ctgttaacag ataagtttaa cttgcatctg cagtattgca tgttagggat aagtgcttat 60
ttttaagagc tgtggagttc ttaaatatca accatggcac tttctcctga cccttccct 120
aggggatttc aggattgaga aatttttcca tcgagccttt ttaaaattgt aggacttgtt 180
cctgtgggct tcagtgatgg ngatagtaca catntcactc agagngcatn tntgcatctt 240
ntaaatana tttcttaaaa gcctctaaag tgatcagntg ccttgatgcc aactaaggaa 300
atttgtttag cattgaatct ctgaaggctc tatgaaagga atagcatgat gtgc        354
```

```
<210> 1619
<211> 170
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(170)
<223> n = A,T,C or G

<400> 1619
ctgtgctgtg gagagaagct gatgttttgg tgtattgtca gccatcgtcc tgggactcgg 60
agactatggc ctcgcctccc caccctcctc ttggaattac aagccctggg gtttgaagct 120
gactttatag ctgcaagtgt atctnncttt tatctggtgc ctcctcaaac              170
```

```
<210> 1620
<211> 386
<212> DNA
<213> Homo sapiens

<400> 1620
cctgttgatt gcatactgta gaagatttga tgttcagact ggttcttctt acatatacta 60
tgtttcgtct acagttggta aattttttgtt tttctttgta ttaaatgttg aattgtattg 120
tctggaggaa aagacagagg tctaaaaata aagaaggagt acagtttggg catggtggtt 180
caccctgga gtcctagcac tttgggggcc aaggcaggca gattgcttga gcccaggagt 240
tctagatgag cctgggcaac atagtgagac cccatctcta aaaaaacagt tttagggcca 300
ggcacagtgg ctcacacctg taagcccagc actttgggag gccgaggcag gcagatcata 360
agggcaagag attgagacca tcctgg                                         386
```

```
<210> 1621
<211> 346
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(346)
<223> n = A,T,C or G

<400> 1621
ccaattctgc ccgttccccg tgggccaaca acactggggt tgtatgcgtc tggaaccctg 60
tgatagtctt cggcttgcca gcctggccca ccacatccac tgcctggccc acacggacag 120
acactggcaa tggccgcagc tcctcatcaa acgtaaccag cattcggggc tgcatggcag 180
ccaccagccc atacaataca tagtgtgatt tgcctagaat aatgtttcga acatccagga 240
aagagacaag cacagtgagc agtccancca cggccacctg gctcataagc tgccggtcgc 300
tgtggtaggg gcagagggta agggtgccct tccctaaatg tgtcag                  346
```

```
<210> 1622
<211> 366
<212> DNA
<213> Homo sapiens

<400> 1622
ggaagtttgt gctctctgcg tggctaagtt tttcacctac taggacgggg gtggggtggg 60
gagaacaggt gtccttctaa aatacagcac aagctacagc ctgcgtccag ccataaccca 120
ggagtaacat cagaaacagg tgagaatgac cactttaact caccgggccc gtcgcactga 180
aataagcaag aactctgaaa agaagatgga aagtgaggaa gacagtaatt gggagaaaag 240
tccagacaat gaagattctg gagactctaa ggatatccgc cttactctta tggaagaagt 300
attgcttctg ggactaaaag ataaagaggg gtacacatct ttctggaatg actgcatatc 360
atcagg                                                              366


<210> 1623
<211> 165
<212> DNA
<213> Homo sapiens

<400> 1623
ctgttgattg gctgtgacac tgctttgtgt catcttctta ccatgatcaa aggcgaagga 60
agggatctct tttgggacat tgtgattgtt ttagcagaga gagaaagaga tgaaatacac 120
ttcggttttc tcttaaaaga tgcatgtatc atacagtgct ttaag                   165


<210> 1624
<211> 227
<212> DNA
<213> Homo sapiens

<400> 1624
ccaatgcccg gagcaggccc tctttccatc ccctgtcgga tgagctggtc aactatgtca 60
acaaacggaa taccacgtgg caagccgggc acaacttcta caacgtggac atgagctact 120
tgaagaggct atgtggtacc ttcctgggtg ggcccaagcc accccagaga gttatgttta 180
ccgaggacct gaagctgcct gcaagcttcg atgcacggga acaatgg                 227


<210> 1625
<211> 373
<212> DNA
<213> Homo sapiens

<400> 1625
ctgtagcttt tgtgggactt ccactgctca ggcgtcaggc tcaggtagct gctggccgcg 60
tacttgttgt tgctttgttt ggagggtgtg gtggtctcca ctcccgcctt gacggggctg 120
ctatctgcct tccaggccac tgtcacggct cccgggtaga agtcacttat gagacacacc 180
agtgtggcct tgttggcttg aagctcctca gaggagggtg ggaacagagt gaccgagggg 240
gcagccttgg gctgacctag gacggtcagt ttggtccctc cgccgaacac ccgaagataa 300
ttagtgctgt ctgttgagta acaatagtag tcaccttcat cttccacctg ggccccagtg 360
atggtcaagg tgg                                                      373


<210> 1626
<211> 367
<212> DNA
<213> Homo sapiens
```

<400> 1626
ccagacgtgg tggctcacac ctgcaatccc agcaccttag gaggccgagg caggaggatc 60
cttgaggtca ggagttcgag accagcctcg ccaacatggt gaaaccccat ttctactaaa 120
aatacaaaaa ttagccaagt gtggtggcat atgcctgtaa tcccaactac tcagaaggcc 180
gaggcaggag aattacttga acgcaggaga atcactgcag ccctggaggc agaggttgca 240
gtgagccgag attgcaccac tgtactccag cctgggtgac agagcaagac tccatctcag 300
taaataaata aataaataaa aagcgctgca gtagctgtgg cctcaccctg aagtcagcgg 360
gcccagg   367

<210> 1627
<211> 424
<212> DNA
<213> Homo sapiens

<400> 1627
ctggataagg acatcaatac cttctctatg cgtgtcaggg tgtggtacgg gtatcacttt 60
ccggagctgg tgaagatcat caacgacaat gccacatact gccgtcttgc ccagtttatt 120
ggaaaccgaa gggaactgaa tgaggacaag ctggagaagc tggaggagct gacaatggat 180
ggggccaagg ctaaggctat tctggatgcc tcacggtcct ccatgggcat ggacatatct 240
gccattgact tgataaacat cgagagcttc tccagtcgtg tggtgtcttt atctgaatac 300
cgccagagcc tacacactta cctgcgctcc aagatgagcc aagtagcccc cagcctgtca 360
gccctaattg gggaagcggt aggtgcacgt ctcatcgcac atgctggcag cctcaccaac 420
ctgg   424

<210> 1628
<211> 314
<212> DNA
<213> Homo sapiens

<400> 1628
tcgactgtta tagcttagaa agcaacacta ctactatgag actataaaac attaaactat 60
tttaagaaaa ccacgctgtg gaaaaatgga gccatttttg tcaaaaagtg gctcaaagca 120
caaaactgct cagatgttca agagtcctag gagtctgggc tgcacagtat taaggggtga 180
gaggagaccg acagcctgtt tgaatcaggc ttgtgagccc agctcatctg acaacttcaa 240
agagcttctc tgcctataca ttccaccgtt tagcataaga caccacttta cgctatttac 300
aagtctcctt ttgg   314

<210> 1629
<211> 393
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(393)
<223> n = A,T,C or G

<400> 1629
ctggaccagc accccattga cgggtacctc tcccacaccg agctggctcc actgcgtgct 60
cccctcatcc ccatggagca ttgcaccacc cgctttttcg agacctgtga cctggacaat 120
gacaagtaca tcgccctgga tgagtgggcc ggctgcttcg gcatcaagca gaaggatatc 180
gacaaggatc ttgtgatcta aatccactcc ttccacagta ccggattctc tctttaaccc 240
tccccttcgt gttttccccc aatgtttaaa atgtttggat ggtntgttgt tctgcctgga 300
gacaaaggtg ctaacataga tttaagttga ataacattaa cggtgctaaa aaatgaaaaa 360

```
ttctaaccca agacatgaca ttcttagctg taa                            393
```

<210> 1630
<211> 317
<212> DNA
<213> Homo sapiens

<400> 1630
```
ctgcaagaat atcagaaatc aatacaaaca agtattgaca ggtgttacag acatgcaaaa 60
tatccttcaa tgcaacgaat ttttaagaaa tcagctagcc tatattaatc agatgtttta 120
ggtcaaacca agtttccatc tcgggctcag tgaaatagta ttaactcatt gagtctcctt 180
tcccccagga atgttgggaa tggcagaaca gaaagagcta tcactcctta aattctttta 240
tgcgagtgtt actccaacac ttattttact tggtttactt ggaatgtatg agaggaaact 300
gatgtttttt acaatgg                                               317
```

<210> 1631
<211> 262
<212> DNA
<213> Homo sapiens

<400> 1631
```
ccttaggcaa gtcaccttac ttatctaaga ctgtttcccc acctggaaga tgccctacaa 60
gcctcctgtg gctgtgttta gaaagcatgc ccggcctttc ttgacagcca gccaccccag 120
atgatggcag ggcaaggaag actgttagga gtcagagtgc tcccctcagg tggaaggaaa 180
ctgggccaac tctactttgt aagccatagg gtgccaggta gcccggccac cctgagcctg 240
tgcctccact gcccccgcgt gg                                         262
```

<210> 1632
<211> 138
<212> DNA
<213> Homo sapiens

<400> 1632
```
ctggaattaa ttcttcgaca actccagacc gaccttcgga aggaaaaaca agacaaggcc 60
gttctccaag cagaagtgca gcacctgaga caggacaaca tgagactgca ggaggagtcc 120
cagaccgcga cagctcag                                              138
```

<210> 1633
<211> 192
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(192)
<223> n = A,T,C or G

<400> 1633
```
ccttgaaggg acctcanagc aaaggaagag acctgggtgt ggtgaggcat cccanggcat 60
ggaagggacc ggttgtgctn ngggaatcca ctgnnccctc cttggnnaaa aaagcacaac 120
acatcataca tatttaccag accagaagcg ctggccccaa gtctccccaa cctggtcggg 180
ggaacctcct gg                                                    192
```

<210> 1634

<211> 447
<212> DNA
<213> Homo sapiens

<400> 1634
ctgcttttaa aggtcttaaa tcactcgaat accttgactt gagcttcaat cagatagcca 60
gactgccttc tggtctccct gtctctcttc taactctcta cttagacaac aataagatca 120
gcaacatccc tgatgagtat ttcaagcgtt ttaatgcatt gcagtatctg cgtttatctc 180
acaacgaact ggctgatagt ggaatacctg gaaattcttt caatgtgtca tccctggttg 240
agctggatct gtcctataac aagcttaaaa acataccaac tgtcaatgaa aaccttgaaa 300
actattacct ggaggtcaat caacttgaga agtttgacat aaagagcttc tgcaagatcc 360
tggggccatt atcctactcc aagatcaagc atttgcgttt ggatggcaat cgcatctcag 420
aaaccagtct tccaccggat atgtatg 447

<210> 1635
<211> 364
<212> DNA
<213> Homo sapiens

<400> 1635
gttttatttg agacataaaa acacatgtgt ttctattaca tagtgtgggg tttagggtcc 60
tggtttctaa dacaagactt tatttcaccc tgtatcacag cttcctggga aatgaattag 120
ggagcaagag acggcctggc aagaaaatca ttattgttgc tgggaagttg caaagaaagg 180
ggagagttta ttcaaattag tgtaacagag cccccaggat gaagagagtg gtgcagggaa 240
aaggtctaaa ttcctggtgt tggtggggac actggcacat cccacagcaa ggactcagcc 300
ctcaacggcg gcggctgggt cttgggaggg gagtggtggg agggtaaggg ctcctcagct 360
ccct 364

<210> 1636
<211> 399
<212> DNA
<213> Homo sapiens

<400> 1636
ctggctggct agactgtttg tgcgccaaga ggatggtcag cgctgctttc cagcctggct 60
ctgctggggc gctggcatct ggttcagttc caccattctc cctgctttct ttgccaagtg 120
tgatattcac ccaagggcac cagtctctat gctgagaggt gggatcaaag aagcttcggg 180
aagatgtgtc cgaactgctg gaggagcaga ggcgagctcg cttggctttc cgcagagggc 240
tagatggtac ctccaggcca ggggtgtctc ctgttcccat gcttcgggtc actgggcgag 300
ttctggtggt ggggctagca gcctctggct caggacggtc aacaggactg gaagagtccc 360
agctccgagt tcgagagaca atgggaccag ggctctttt 399

<210> 1637
<211> 246
<212> DNA
<213> Homo sapiens

<400> 1637
ctgagctttc agcagataaa tcacagcaga aatagaatca ccctaggact ttcaatcaaa 60
agctggaagt ccaccttaca gaaagacaaa aagaaacccc tttttatatc ttaacaaagc 120
aatagctctc aagcagcaga gcatctcgag gaagaaagct tgcccggtcg ccatcccatc 180
atgccagagc gtgcagtgtc caccttgac tacgctgggg aattgctgat tttttgaaaa 240
agcttg 246

```
<210> 1638
<211> 453
<212> DNA
<213> Homo sapiens

<400> 1638
ccaagagttc tccactgtga agactgaaag gacctggtga catttcggca tcagtcctgt 60
taccacttgg aggtaacaga agcaggctcg tgtcctcctt taattctacc acactacatg 120
actcgcaatt ggttctgaaa ttagaacgtt caccatcgta cttaaaatct taggggcatg 180
aagagtcagc tagaacaagg aaaaagaaag tcgcaggtag taggtaagta ggtgggcaca 240
tgaaaagcca agctgctctg tccaacacca gtgtacatgt gctttaacta aatgaactcc 300
agaggccaac agcagcagac ctgctcaatt caccttccaa atcagaacaa gaccaaaaag 360
ctcaggcttg agttgtcaac tatgcatagg ttccgccagt gatgaggagc tcgtaagcag 420
gatctctact ccttctgcac aacacgatgc aag                            453

<210> 1639
<211> 197
<212> DNA
<213> Homo sapiens

<400> 1639
tttgctgttc gtgatatgag acagacagtt gcggtgggtg tcatcaaagc agtggacaag 60
aaggctgctg gagctggcaa ggtcaccaag tctgcccaga aagctcagaa ggctaaatga 120
atattatccc taatacctgc caccccactc ttaatcagtg gtggaagaac ggtctcagaa 180
ctgtttgttt caattgg                                              197

<210> 1640
<211> 278
<212> DNA
<213> Homo sapiens

<400> 1640
ccagagcggt gagtcccacc acctcgaact ctgggaattc gagccacagc tctgccagta 60
ccccaagact cagcactagt ctgatgacct gctaattcac tgacagcata gggctgtctg 120
ttgttttgc gcaagttggt gtgaacaaag ttcacaatat ctggtcgaat aggagccttg 180
aatacagcag gcaaagtgac attttgcca gatgactccc ccttttcgga gtacaccgat 240
atcagtgggc gagcgcacgc catggcggac ctcggccg                       278

<210> 1641
<211> 227
<212> DNA
<213> Homo sapiens

<400> 1641
ccattgttcc cgtgcatcga agcttgcagg cagcttcagg tcctcggtaa acataactct 60
ctggggtggc ttgggcccac ccaggaaggt accacatagc ctcttcaagt agctcatgtc 120
cacgttgtag aagttgtgcc cggcttgcca cgtggtattc cgtttgttga catagttgac 180
cagctcatcc gacaggggat ggaaagaggg cctgctccgg gcattgg             227

<210> 1642
<211> 299
<212> DNA
<213> Homo sapiens
```

<400> 1642
ctgcacatca aggacatctt caggaagttc aggattgccg tagctaaact gaaaaccacc 60
atccatggac tctccaaacc aaacgtgttt cttctcagca ctagaatctg tccaccagtg 120
tttccgtgga acattcaaag gattggcact tatgcatgtt tccccagttt ccatattaca 180
gaataccttg atagcatcca atttgcatcc ttggttaggg tcaacccagt attctccact 240
cttgagttca ggatggcaga atttcaggtc tctgcagttt ctagcggggt ttttacgag 299

<210> 1643
<211> 301
<212> DNA
<213> Homo sapiens

<400> 1643
ccaagggcta caatgagcag cgcatcagac agaacgtgca ggttttttgag ttccagttga 60
ctgcagagga catgaaagcc atagatggcc tagacagaaa tctccactat tttaacagtg 120
atagttttgc tagccaccct aattatccat attcagatga atattaacat ggagagcttt 180
gcctgatgtc taccagaagc cctgtgtgtg gatggtgacg cagaggacgt ctctatgccg 240
gtgactggac atatcacctc tacttaaatc cgtcctgttt agcgacttca gtcaactaca 300
g 301

<210> 1644
<211> 365
<212> DNA
<213> Homo sapiens

<400> 1644
ctggtgagcg aaggatggga gcagagaaca gagctaaaac ccctggtttt cctttcccca 60
gatgtaaagc ctgctagctg gaactcacag aagattggaa caaaaagata ggagatggac 120
acctggggga ctgctccagc acgaagggaa gcgatgagca tcacacagca gggccattgc 180
aggggacagg tgctgtaatt cctgcccaga gaacttgaaa gcttacagtg tgctcacagg 240
aaggaatcgg ctcagctagt ccagaaattg ctgcatttcc catattactt agttctttat 300
tcatcctgtg gtaaagagtc acccttgttt tccgtatcta taaaactgaa agacttaaaa 360
tttac 365

<210> 1645
<211> 249
<212> DNA
<213> Homo sapiens

<400> 1645
ctggtgctgg aactgcagaa agttaagcag gagaacatcc agctagcggc agacgcccgg 60
tctgctcgtg cctatcgaga cgagctggat tccctgcggg agaaggcgaa ccgcgtggag 120
aggctggagc tggagctgac ccgctgcaag gagaagctgc acgacgtgga cttctacaag 180
gcccgcatgg aggagctgag agaagataat atcattttaa ttgaaaccaa ggccatgctg 240
gaggaacag 249

<210> 1646
<211> 433
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(433)

<223> n = A,T,C or G

<400> 1646
ctgtggccgg attgatgggg cccccacttc ctagggctga aggcaagttg aaggaagcag 60
caggagtacc ggaatgaaaa ccttgtttct caaaggactg ctgggttttg gagtacacag 120
aacccgagat atctggcacg cccgtgttac tggaggtgac tgaaacacca gtgttgtatc 180
catgagaccc atatccactc ggctgttgga aaggggtggc cgatgcattc acactgacat 240
tcacaccatg ctgcttggaa gaggtaggag ccacagggaa cacagcaggc ccatactgga 300
aggtgctggg gaggcccggg acccctgtat agtatggcag gctggtgtaa actgtagcca 360
ggaggcagcg ccgggttcag gaatgtctgc tgcgtggnat ggtgagtctg cgtctggttt 420
ctgttggggt tgg 433

<210> 1647
<211> 451
<212> DNA
<213> Homo sapiens

<400> 1647
ccagcttgca agcacgctgg caaatctctg tcaggtcagc tccagagaag ccattagtca 60
ttttagccag gaactccaag tccacatcct tggcaactgg ggacttgcgc aggttagcct 120
tgaggatggc aacacgggac ttctcatcag gaagtgggat gtagatgagc tgatcaagac 180
ggccaggtct gaggatggca ggatcaatga tgtcaggccg gttggtagcg ccaatgatga 240
acacattttt ttttgtggac atgccatcca tttctgtcag gatctggttg atgactcggt 300
cagcagcccc accaccatct ccaatgttac ctccacgagc cttggcaatc gaatccagct 360
catcaaagaa tagcacacag ggggcagctt ggcgggcctt gtcaaagatt tctctgacat 420
tggcctcaga ctccccaaac cacatggtga g 451

<210> 1648
<211> 176
<212> DNA
<213> Homo sapiens

<400> 1648
cctaaacgag gatttcagct tccattatgc ccaactccag tccaacatca ttgaggcgat 60
taatgagctg ctagtggagc tggaagggac aatggagaac attgcagccc aggctctgga 120
gcacattcac tccaatgagg tgatcatgac cattggcttc tcccgaacag tagagg 176

<210> 1649
<211> 435
<212> DNA
<213> Homo sapiens

<400> 1649
tgtggctgtg ccgttggtcc tgtgcggtca cttagccaag atgcctgagg aaacccagac 60
ccaagaccaa ccgatggagg aggaggaggt tgagacgttc gcctttcagg cagaaattgc 120
ccagttgatg tcattgatca tcaatacttt ctactcgaac aaagagatct ttctgagaga 180
gctcatttca aattcatcag atgcattgga caaaatccgg tatgaaagct tgacagaccc 240
cagtaaatta gactctggga aagagctgca tattaacctt ataccgaaca aacaagatcg 300
aactctcact attgtggata ctggaattgg aatgaccaag gctgacttga tcaataacct 360
tggtactatc gccaagtctg gaccaaagc gttcatggaa gctttgcagg ctggtgcaga 420
tatctctatg attgg 435

<210> 1650
<211> 246

```
<212> DNA
<213> Homo sapiens

<400> 1650
ccatgtctgt attgtaactg gtaaaaggct tcaagtcaga ttgatgatca agaaaagtca 60
aaaccccagc ccaagattgg gaaagcaggt ggtggttcca agcttttaaa aaattattga 120
agctctccat cctgttctgt gagtgtgtct tctctttctc cttcacgtca tagccgtgac 180
ccaccgttca tctctgctct tgcgtaaaga tgaccgatgg agtccaaagc caagtggctt 240
caccag 246


<210> 1651
<211> 400
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(400)
<223> n = A,T,C or G

<400> 1651
cggcaagttc tcccaggaga aagccatgtt cagttcgagc gccaagaccg tgaagcccaa 60
tggcgagaag ccggacgagt tcgagtccgg catctcccag gctcttctgg agctggagat 120
gaactcggac ctcaaggctc agctcaggga gctgaatatt acggcagcta nngaaattga 180
agttggtggt ggtcggaaag ctatcataat ctttgttccc gttcctcaac tgaaatcttt 240
ccagaaaatc caagtccggc tagtacgcga attggagaaa aagttcagtg ggaagcatgt 300
cgncttatc ggctcagagg aggaattctg cctaagccaa ctcnaaaag ccgnacnaaa 360
aattanngca aaaagcgtnc caggagccgt nctctgacag 400


<210> 1652
<211> 338
<212> DNA
<213> Homo sapiens

<400> 1652
ctgggggtgc ccatcttctg tgctctgtgg tacatatctg tgtcgccaaa gtagcgtgcc 60
cggtacagca agccttcctt ctgctgcttc tccttccagc agttgttccg gaggttggcg 120
atataatcat cttccacatt ccgctcgact gttttgaggc tggagcctgt gtactcttcg 180
gagaaagtgt ctcccacata gtagacgaca cccaggtggt cagtgactcg cctgtggatg 240
tggcccacag acggtcttgg actcagactg tagggtggac tggagaccat gagctggctg 300
agagctgaca cgagaatcag gatgaggata ggcatcag 338


<210> 1653
<211> 167
<212> DNA
<213> Homo sapiens

<400> 1653
gcggtggagc cgccaccaaa atgcagattt tcgtggaaac ccttacgggg aagaccatca 60
ccctcgaggt tgaaccctcg gatacgatag aaaatgtaaa ggccaagatc caggataagg 120
aaggaattcc tcctgatcgg cagagactga tctttgctgg caagcag 167
```

<210> 1654
<211> 1034
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1034)
<223> n = A,T,C or G

<400> 1654
atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc ttagcgtggt 60
cgcggccgag gtccaagagg gagataanac aaacttctca aacaaaaaga aaagaaaaac 120
gaatgattca tctgctttaa tcagtgtgat taatgcagca cccattgccc cgggaaccgt 180
ttctgctgta ctatctggat actaaaatgt tacggaagta gctctttgtt ctccctcact 240
ctgcccttag ttaatagaaa ttcagactcg ccaagtaagg ctttgtgcat agtgtcttca 300
tgtcgcgtat agttgagcgc gttcttagca gttggcttca tggacagctc attagtgttt 360
tgactttct tacccagcgt taattgaatt cttgctttta gacaacttcc tttttgtagt 420
ggtgaacctt gcccttagt acagttcaag tgaatctgga taattgttca tctttgcttt 480
agcttagata ccatgtagtg gtctgtggct acaggaagct ggttctgtct gcttccacag 540
tctgcttaaa aaactgtctg acttcgtgaa tatagagacc aagtttacca cttctgatga 600
agagaccaat taagattcat tcctcattct gtttctttcc agtgggagaa gagtccccat 660
gaaataagat gaaactgatt ccatgcacta gtacatgtag gcttctccct tgcgcaaagc 720
ttaacaattt gtaggaaact ttgggtcttt ttgtcccaag aaaaaggaat gtcttgacag 780
gcttaaagct tttcgtcccc ttgcacctta aaactcgaaa gttaggnaaa atccctttaa 840
agggctttt ttaatagcca gaacttccca aaaggaatgg cnttttaggg aatttcntag 900
ccatngcttt ttaaatttaa agaaattttt aanaaccttg ccccnggggn ggggncccgc 960
tccaaaaagg ggnggnaaaa ttccccagcc naccctttng gggggggccn cgttttcctt 1020
tnnnggggggg aanc 1034

<210> 1655
<211> 487
<212> DNA
<213> Homo sapiens

<400> 1655
atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc tttcgagcgg 60
ccgcccgggc aggtcctact cttctccgtc cattgtacta tctgcccgtg gtggggatgg 120
cagtaggatc atatttgatg acttccgaga agcatattat tggctccgtc ataatactcc 180
agaggatgcg aaggtcatgt cctggtggga ttatggctat cagattacag ctatggcaaa 240
ccgaacaatt ttagtggaca ataacacatg gaataatacc catatttctc gagtagggca 300
ggcaatggcg tccacagagg aaaaagccta tgagatcatg agggagctcg atgtcagcta 360
tgtgctggtc attttggag gacctcggcc gcgaccacgc taaggcgaa ttccagcaca 420
ctggcggccg ttactagtgg atccgagctc ggtaccaagc ttggcgtaat catggtcata 480
gctgttt 487

<210> 1656
<211> 514
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(514)

<223> n = A,T,C or G

<400> 1656
atgcatgctc gagcggcccg ccagtgtgat ggatatctgc agaattcgcc cttancgtgg 60
tcgcggccga ggtcctaccc ataatccaga gaggcttgcc cagaggagga ctacgtgggg 120
gacgtgccac cagaaccota cttgggggcg ggatgtcact ccgaggtcaa aacctgctcc 180
gaggtggacg agccgtagct ccccgaatgg gcttaagaag aggtggtgtt cgaggtcgtg 240
gaggtcctgg gagaggggggc ctagggcgtg gagctatggg tcgtggcgga atcggtggta 300
gaggtcgggg tatgataggt cggggaagag ggggctttgg aggccgaggc cgaggccgtg 360
gacgagggag aggtgcccctt gctcgccctg tattgaccaa ggagcagacc tgcccgggcg 420
gccgctcgaa gggcgaattc cagcacactg gcggccgtta ctagtggatc cgagctcggt 480
accaagcttg gcgtaatcat ggtcatagct gttt   514

<210> 1657
<211> 605
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(605)
<223> n = A,T,C or G

<400> 1657
atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc tttcgagcgg 60
ccgcccgggc aggtccanac gctgacattg nttctgagtc cttaagcagg aaggatttga 120
aatcctggag cttggcagtc ttgctcttca cctctaagcc aatgttgacc ccttcatcta 180
taaagtccac aactctccgg aagtcatcct cacggaactg tcgagaagtt aaggctgggg 240
ccccaagccg caggccgccc ggtgtgatgg cacttcggtc tccaggacag gtgttcttgt 300
tggcagtgat ggatacaagc tctagcaccc gctcagcccg agctccatcc aggcccttgg 360
gccgcaggtc caccagcacc aggtggttgt cagtaccacc tgataccagt gagtagcctc 420
gccctagcag ggcatctgcc atggcccgag cattcttcag aacctgcagg gagtactccc 480
ggaacatggg ggtgcaggac ctcggccgcg accacgctaa gggcgaattc cagcacactg 540
gcggccgtta ctagtggatc cgagctcggt accaagcttg gcgtaatcat ggtcatagct 600
gtttc   605

<210> 1658
<211> 784
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(784)
<223> n = A,T,C or G

<400> 1658
agnnttccgn cggccctcna gntgcatgct cgagcggccg cgcagtgaga tgnatatctg 60
cagaattcgc ccttancgtg ggcgnangca tgacgctcgg gatcagaact aaaacaagtg 120
agatcacccc tctaattatt tctgaactng gttaataaaa gcttataaga tttttatgaa 180
gcanccactg tatgatattt taagcaaata tgttatttaa aatattgatc cttcccttgg 240
accaccttca tgttagttgg gtattataaa taagagatac aaccatgaat atattatgtt 300
tatacaaaat caatctgaac acaattcata aagatttctc ttttatacct tcctcactgg 360
cccctccac ctgcccatag tcaccaaatt ctgttttaaa tcaatgacct aagatcaaca 420

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atgaagtatt ttataaatgt atttatgctg ctagactgtg ggtcaaatgt ttccattttc 480
aaattattta gaattcttat gagtttaaaa tttgtaaatt tctaaatcca atcatgtaaa 540
atgaaactgt tgctccattg gagtagtctc ccacctaaat atcaagatgg ctatatgcta 600
aaaagagaaa atatggtcaa gtctaaaatg gctaattgtc ctatgatgct attatcatag 660
actaaccgac atttatcttc aaaacaccaa attgtcttta gaaaaaatta atngtgatta 720
ccaggtagaa ggacctgccc gggcggnccg ctcgaaaggg ccgaaattcc agccccacct 780
gggc                                                            784
```

```
<210> 1659
<211> 789
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(789)
<223> n = A,T,C or G

<400> 1659
tngngccctc tagatgcang ctcgagcggc cgccagtgtg atggatatct gcagaattcg 60
cccttagcgt ggtcgcggcc gaggtccatt aaagataagt ttggctaact attttactga 120
agagactaat ggtcttccct ctgttgtact gctatgtttc ttgatctgtt tttccccaat 180
gtaacagtct acattgaagt cctttagctc tctccatata ctaattgaca tttgttaagg 240
attcaatatt ttgtgaattc tttttaccct taaaatgcat atctttcaga gagataagaa 300
tgaattttgc aataatttat atgcagagtg tgcttatggg tttctgggag ttcaagttag 360
taccccagag tgcttaaaag tacgatgcta aattctaagg ctaatgtaat gactgtagat 420
tatctatgtc cacattgttc aacagaaata taatgtgaac cacaacataa tttttaattt 480
tctagtagcc atattaaaaa agaaacaagc aaaattaatt ttaataacag tttatgtaac 540
ccagtatatt aaaaatatca tttcaacatg taatcaatat aaaagattat taatgaaaca 600
ccttatcctc tttttcttcc atgctaagtc ttagatttga gtgtattttg cactcacagc 660
acatctcaat tctgactgga cctgcccggg cggccgctcg aaagggcgaa ttccagcaca 720
ctgggcggcc gttactagtg gatccgagct ccggtaccaa gcttggcgta atcatggtca 780
tagctgttt                                                       789
```

```
<210> 1660
<211> 559
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(559)
<223> n = A,T,C or G

<400> 1660
ccncgccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct gcngaattcg 60
ccctttccag cggccgcccg ggcaggtcca tcagacttct tgggtgcctg gctatattca 120
atgtgaagta aaaaatatcc caagtcttac accaaaatag aggctctgac ttagaagtat 180
gcttttagct ttctttttaa ataagacatt ctggaagaaa aaaaagaaa aggaaagaa 240
aatcaagttt gaaacacagt taacacttat tttggcaaga aagcaaccaa aatctaaaaa 300
gcataaacta tgngtccaaa tgnaaaaggn attacagaac aaactgcaag aggggaaaat 360
taaagccnca ctgaacgaaa aaatacagta tgtctaacat tttggaattg naatttaaac 420
cctaagggca aaagctgaaa aatcatgctt anacctnggn cgngaccacn ctaagggcga 480
attccancac actggcggnc gttactagtg gatccnanct cggtaccaag cttggcgtaa 540
```

```
tcctnggcat agctgtttc                                              559


<210> 1661
<211> 453
<212> DNA
<213> Homo sapiens


<400> 1661
ttgggccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct gcagaattcg 60
ccctttcgag cggccgcccg ggcaggtctg cagtgtccct ttttatatca tgctagtgtt 120
gagacatact tgactaactt gggaacagtt cgatatattg acaaccgtca acttaagaaa 180
atcaacagct tttggcccca gcgtccaagt gaacttttca tggagtgcag aatctcaaat 240
ggacaaaata ctttgtcttt ttaaatactg aaaatttaat tattagtact atgactgaaa 300
gattcttcat ggctaaaaag ctctgcatca aactcaattc aggaggacct cggccgcgac 360
cacgctaagg cgaattcca gcacactggc ggccgttact agtggatccg agctcggtac 420
caagcttggc gtaatcatgg tcatagctgt ttc                              453


<210> 1662
<211> 809
<212> DNA
<213> Homo sapiens


<220>
<221> misc_feature
<222> (1)...(809)
<223> n = A,T,C or G


<400> 1662
ctcgagcggc cgccantgtg atggntatct gcagaattcg cccttancgg ccgcccgggc 60
aggtccttag ccaaagaatg cagtggagcc ttcccccngg ggctgcattg tgaatgaata 120
ccaattgaca gcataaaaat taatagtccc atatcagatc tggaaggggt ttctggggct 180
gtctgatgtc cctatcctgt tgtagtgaac acaatagcag aaaattcttt ctgggtccat 240
ctgctataaa gtcttggtaa aacagcatta ctatgaagag gatgaactca cctaccttca 300
natggaggaa aagtgaaaag gacttaggct ttagtcctcc atgactttc ttaagcacta 360
cctacctgta ataagctgag tgcaaaagga tgccgaagaa aatctgcacc cagaagctgt 420
tagaaagcac tgcagangaa cagggnatga ataaaataaa nagntcttaa taaacccttaa 480
agattctttg ntcaaggggn actttgccaa aaggggcaga atangngggn aaagagttgc 540
ttttaatcta gctctacact ggcntttgaa aataaaattt gcccatttng aaatatatng 600
ggntataatt aaaatgnggc tttttacact ggngggggcta tataaaaact gggtagnnaa 660
atttccaccg agcatntatg gngatttgnt cacagnaaac ctccgggcng gacccacgct 720
aagggnggaa ttccagcnac antgggggggg ncngntacct anagtggatc ccnagnctng 780
gggnccccna anctttgggg gngtnaatc                                   809


<210> 1663
<211> 585
<212> DNA
<213> Homo sapiens


<400> 1663
ttgggccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct gcagaattcg 60
ccccttgccgc ccgggcaggt gatggatgag gagcaaaaac tttatacgga tgatgaagat 120
gatatctaca aggctaataa cattgcctat gaagatgtgg tcggggggaga agactggaac 180
ccagtagagg agaaaataga gagtcaaacc caggaagagg tgagagacag caaagagaat 240
atagaaaaaa atgaacaaat caacgatgag atgaaacgct cagggcagct tggcatccag 300
```

```
gaagaagatc ttcggaaaga gagtaaagac caactctcag atgatgtctc caaagtaatt 360
gcctatttga aaaggttagt aaatgctgca ggaagtggga ggttacagaa tgggcaaaat 420
ggggaaaggg ccaccaggct ttttgagaaa cctcttgatt ctcagtctat ttatcagacc 480
tcggccgcga ccacgctaag ggcgaattcc agcacactgg cggccgttac tagtggatcc 540
gagctcggta ccaagcttgg cgtaatcatg gtcatagctg tttcc          585
```

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<210> 1664
<211> 999
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(999)
<223> n = A,T,C or G

<400> 1664
anccngctcn agcggccgcc antgtgatgg atatctgcag aattcgccct ttcgagcggg 60
ccgcccgggc aggtctgaca atngattaaa caggcgacat gcaacccca ctaaggttaa 120
aagtccaaaa ctactcacac gcatctcttn attggggaaa agctgagact attatncatt 180
cttggtagnc ttgcaacctt gcatgaagag cacccattgc atttctttca tctttcagaa 240
agcaccggta tctgttccaa gggnctaaca gtacnaaaat acnttntggg attcaccttt 300
tnaaacccaa nactgttntc attaaaaata attttggntt gtaacaaaat tatgaaatac 360
aatgcaagca cctnggtata gcattattac tgaaaccact taattcccag ctttttgagt 420
ttttaaaaa aacccactgc actaagattc acaattcatt gctacataca aattaaagct 480
agtaagaaca cactaacgtc acaagtttct cattctaaag tgcnaaancc ntaatngtct 540
ngaaagtgga acagggtaa agggcaaaaa ttaacccccc ccacccaat taaagtttcc 600
tggaangtca ntantntttt naatccccaa aggnnncatt tctntttaaa aaaattggnt 660
acctttggaa ctggggtaaa gnaaaatnag gaaccctgg gnggttttt ttatnttttc 720
ttnaanccaa ccccccaatt ccaccttaaa aacccccacc cggggangg ccaaaangnc 780
caccttgng gaaacnctt tngtgggggn cccggtcgna aaacccaacc ncctntaaa 840
aaggggggt cgnnaaaaaa tttctcccna aganaaaccc acctttgggg cgnggggacn 900
cgntttaccc nttaaaatgg ggggaattcc ccgaaagcgt ttggggtaa ccccaaaaga 960
cctttggggg gggaaaaatg aatgggggnc cattaaccn          999
```

```
<210> 1665
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

<400> 1665
gctaaaggtg accccaagaa accaaag          27
```

```
<210> 1666
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
```

<223> PCR primer

<400> 1666
ctattaactc gagggagaca gataaacagt ttcttta   37

<210> 1667
<211> 207
<212> PRT
<213> Homo sapiens

<400> 1667
Met Gln His His His His His His Ala Lys Gly Asp Pro Lys Lys Pro
1   5   10   15
Lys Gly Lys Met Ser Ala Tyr Ala Phe Phe Val Gln Thr Cys Arg Glu
                20   25   30
Glu His Lys Lys Lys Asn Pro Glu Val Pro Val Asn Phe Ala Glu Phe
            35   40   45
Ser Lys Lys Cys Ser Glu Arg Trp Lys Thr Met Ser Gly Lys Glu Lys
        50   55   60
Ser Lys Phe Asp Glu Met Ala Lys Ala Asp Lys Val Arg Tyr Asp Arg
65   70   75   80
Glu Met Lys Asp Tyr Gly Pro Ala Lys Gly Gly Lys Lys Lys Lys Asp
                85   90   95
Pro Asn Ala Pro Lys Arg Pro Pro Ser Gly Phe Phe Leu Phe Cys Ser
                100   105   110
Glu Phe Arg Pro Lys Ile Lys Ser Thr Asn Pro Gly Ile Ser Ile Gly
            115   120   125
Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Leu Asn Asp Ser
        130   135   140
Glu Lys Gln Pro Tyr Ile Thr Lys Ala Ala Lys Leu Lys Glu Lys Tyr
145   150   155   160
Glu Lys Asp Val Ala Asp Tyr Lys Ser Lys Gly Lys Phe Asp Gly Ala
                165   170   175
Lys Gly Pro Ala Lys Val Ala Arg Lys Lys Val Glu Glu Glu Asp Glu
                180   185   190
Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Asp Glu
            195   200   205

<210> 1668
<211> 636
<212> DNA
<213> Homo sapiens

<400> 1668
catatgcagc atcaccacca tcaccacgct aaaggtgacc ccaagaaacc aaagggcaag   60
atgtccgctt atgccttctt tgtgcagaca tgcagagaag aacataagaa gaaaaaccca   120
gaggtccctg tcaattttgc ggaattttcc aagaagtgct ctgagaggtg gaagacgatg   180
tccgggaaag agaaatctaa atttgatgaa atggcaaagg cagataaagt gcgctatgat   240
cgggaaatga aggattatgg accagctaag ggaggcaaga agaagaagga tcctaatgct   300
cccaaaaggc caccgtctgg attcttcctg ttctgttcag aattccgccc caagatcaaa   360
tccacaaacc ccggcatctc tattggagac gtggcaaaaa agctgggtga gatgtggaat   420
aatttaaatg acagtgaaaa gcagccttac atcactaagg cggcaaagct gaaggagaag   480
tatgagaagg atgttgctga ctataagtcg aaaggaaagt ttgatggtgc aaagggtcca   540

gctaaagttg cccggaaaaa ggtggaagag gaagatgaag aagaggagga ggaagaagag   600
gaggaggagg aggaggagga tgaataatga ctcgag   636

<210> 1669
<211> 2821
<212> DNA
<213> Homo sapiens

<400> 1669
ccacgcgtcc gcgccgcgcg gcgcagggga ggcgagaggc gcccccggt ggagagcctg   60
agccccgcgc aagtctggcg gcacctggcg agcggagccg gagtcgggct ggggaccgcg   120
gggttgaggc cggaccgcgg cggggtcggg ggagaaacgc gcgctgccct ggcacgggcc   180
ccaacccccc ggccgcgcgg aatggtatgg cccggccgga gttaaggccg gggggaggcg   240
gcgagtcccg cggcggcggc gacgatgggg ctgcgtgcag gaggaacgct gggcagggcc   300
ggcgcgggtc ggggggcgcc cgaggggccc gggccgagcg gcggcgcgca gggcggcagc   360
atccactcgg gccgcatcgc cgcggtgcac aacgtgccgc tgagcgtgct catccggccg   420
ctgccgtccg tgttggaccc cgccaaggtg cagagcctcg tggacacgat ccgggaggac   480
ccagacagcg tgccccccat cgatgtcctc tggatcaaag gggcccaggg aggtgactac   540
ttctactcct ttggggggctg ccaccgctac gcggcctacc agcaactgca gcgagagacc   600
atccccgcca agcttgtcca gtccactctc tcagacctaa gggtgtacct gggagcatcc   660
acaccagact tgcagtagca gcctccttgg cacctgctgc caccttcaag agcccagaag   720
acacacctgg cctccagcag gctgggccat gcagaaggga tagcagggggt gcattctctt   780
tgcacctggc gagagggtct gactctgggc acccctctca ccggctacaa ggccttggac   840
tcactgtaca gtgtgggagc cccagttccc acctctgtga caataggatc atggccttac   900
ccttgaagca ttaccgagaa ggagaacaga gatgggcttg aagagccacg tgctgccggc   960
tccaaattcc caaggacaag gatccctctg catttttgtc tatgtaacct cttatatgga   1020
ctacattcag ctgcaaggaa aggaaaacct tgattgcagt ggtttaaaca aacagaagat   1080
tgttttttcca catagcatgg attctggaga tgggtggcta atggtattgg ttcaacaact   1140
ccacgaaggt aggggtcacg tcttggatcc ttttgcctta atctcagtgc tcgttacttc   1200
atggtcccaa gatggctgct gtatccccaa gaatcatgtc tgcgttcaag gaaggagggg   1260
tggaggaaga ggaagggcca aactagctgg acccgtcacc ttctatcaga aagtaaaacc   1320
tcgtcagaag tctgtttcct gctctctccc tctgcatatc ttcacttaga tgcccttggc   1380
ccgagccagc taccattgca cctctagctg caaacaaagc taagacagca gggaacagaa   1440
ttgtcatggc tgaatagacc aatcgtgttc catctactga gactggcaca ctgcctcctg   1500
caataaaact gggatcccat taccaagaga gaaatgcaga attgtgtacc agttagcttt   1560
tgctgtgtaa caaaccatcc ccaaacttgg cagctagaaa caaaccctgt attttcccac   1620
aatcctatgg gttggcaatt tgggctgggc tcaacagggc agttctgctg ctcacacctg   1680
ggatccctca tggagctaag gtcagctgtt acctcagctg ggcctggatg gtctaggata   1740
gccttactca cttgcctggc aggtgacagg ctgttggctg gaattgcttg gttctcctcc   1800
atgtggcctc tccagcaggc tagctcaggc ttattcacat gatggcttca ggattccaaa   1860
gagagtgaga gtagaagctg aaagacttct tgagttcttg gcctggaact gggactagga   1920
cagtgtcact tctgctaagt tcttttggtc agagcaaatc acaaggcttt acccagattc   1980
aagggatgag aaacagacta catgtcttga tgaggggaac cacaaagagc ttgtggccat   2040
ttttcaccta tcacaaataa ttttggatgg gtatttattt ggataaaggt atttccctct   2100
tccccctttc tctctgtctc atggggcctc actctgccaa gttggaaggc actaagacat   2160
tgtcctggcc ctcagggtct aggggaagag gtgttggggc aggaagtgag tctctccatg   2220
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aggtaggaca ttccagaggg gcttctgaaa accaagagtc cctggggaaa gggaacagag   2340
taaggcaggc cttgttctca ctgccctcta agggaacttg gtcactcggc acttttaagc   2400
ctcagtttct ccagttcaat aataaggaca agagcttttc ccatgcattc tctttccccg   2460
ggaaagttga ctgaggtgac cagtaataga attgaaaagg gagagtgtct tcagtgcaat   2520
gtggcatcct ggattgggtc ttggaacaaa aacaggacat tagtgggaaa attggaaatc   2580
tgaaaaaagt ctgaatttta gttaatatac caatttcagt ctcttggttt tgacagatgt   2640

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accatggtga tgtaagatgt tgaccttggg gtaggctggg tgaagggtat acaggaactc 2700
tttgtactat ctctgcaact tctctgtaaa tctagtatca ttccaaaata aaagtttatt 2760
taatttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2820
a                                                                  2821
```

<210> 1670
<211> 137
<212> PRT
<213> Homo sapiens

<400> 1670

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Met Gly Leu Arg Ala Gly Gly Thr Leu Gly Arg Ala Gly Ala Gly Arg
                  5                  10                  15

Gly Ala Pro Glu Gly Pro Gly Pro Ser Gly Gly Ala Gln Gly Gly Ser
             20                  25                  30

Ile His Ser Gly Arg Ile Ala Ala Val His Asn Val Pro Leu Ser Val
         35                  40                  45

Leu Ile Arg Pro Leu Pro Ser Val Leu Asp Pro Ala Lys Val Gln Ser
     50                  55                  60

Leu Val Asp Thr Ile Arg Glu Asp Pro Asp Ser Val Pro Pro Ile Asp
 65                  70                  75                  80

Val Leu Trp Ile Lys Gly Ala Gln Gly Gly Asp Tyr Phe Tyr Ser Phe
                 85                  90                  95

Gly Gly Cys His Arg Tyr Ala Ala Tyr Gln Gln Leu Gln Arg Glu Thr
            100                 105                 110

Ile Pro Ala Lys Leu Val Gln Ser Thr Leu Ser Asp Leu Arg Val Tyr
        115                 120                 125

Leu Gly Ala Ser Thr Pro Asp Leu Gln
    130                 135
```

<210> 1671
<211> 109
<212> PRT
<213> Homo sapiens

<400> 1671

```
Met Ala Arg Pro Glu Leu Arg Pro Gly Gly Gly Glu Ser Arg Gly
                  5                  10                  15

Gly Gly Asp Asp Gly Ala Ala Cys Arg Arg Asn Ala Gly Gln Gly Arg
             20                  25                  30

Arg Gly Ser Gly Gly Ala Arg Gly Ala Arg Ala Glu Arg Arg Arg Ala
         35                  40                  45
```

Gly Arg Gln His Pro Leu Gly Pro His Arg Arg Gly Ala Gln Arg Ala
    50   55   60

Ala Glu Arg Ala His Pro Ala Ala Ala Val Arg Val Gly Pro Arg Gln
65   70   75   80

Gly Ala Glu Pro Arg Gly His Asp Pro Gly Gly Pro Arg Gln Arg Ala
            85   90   95

Pro His Arg Cys Pro Leu Asp Gln Arg Gly Pro Gly Arg
            100   105

<210> 1672
<211> 145
<212> PRT
<213> Homo sapiens

<400> 1672
Met Gly Leu Lys Ser His Val Leu Pro Ala Pro Asn Ser Gln Gly Gln
                5   10   15

Gly Ser Leu Cys Ile Phe Val Tyr Val Thr Ser Tyr Met Asp Tyr Ile
            20   25   30

Gln Leu Gln Gly Lys Glu Asn Leu Asp Cys Ser Gly Leu Asn Lys Gln
        35   40   45

Lys Ile Val Phe Pro His Ser Met Asp Ser Gly Asp Gly Trp Leu Met
    50   55   60

Val Leu Val Gln Gln Leu His Glu Gly Arg Gly His Val Leu Asp Pro
65   70   75   80

Phe Ala Leu Ile Ser Val Leu Val Thr Ser Trp Ser Gln Asp Gly Cys
            85   90   95

Cys Ile Pro Lys Asn His Val Cys Val Gln Gly Arg Arg Gly Gly Gly
            100   105   110

Arg Gly Arg Ala Lys Leu Ala Gly Pro Val Thr Phe Tyr Gln Lys Val
        115   120   125

Lys Pro Arg Gln Lys Ser Val Ser Cys Ser Leu Pro Leu His Ile Phe
    130   135   140

Thr
145

<210> 1673
<211> 117
<212> PRT
<213> Homo sapiens

<400> 1673
Met Asp Tyr Ile Gln Leu Gln Gly Lys Glu Asn Leu Asp Cys Ser Gly
                5   10   15

Leu Asn Lys Gln Lys Ile Val Phe Pro His Ser Met Asp Ser Gly Asp
            20   25   30

Gly Trp Leu Met Val Leu Val Gln Gln Leu His Glu Gly Arg Gly His
        35   40   45

Val Leu Asp Pro Phe Ala Leu Ile Ser Val Leu Val Thr Ser Trp Ser
    50   55   60

Gln Asp Gly Cys Cys Ile Pro Lys Asn His Val Cys Val Gln Gly Arg
65   70   75   80

Arg Gly Gly Gly Arg Gly Arg Ala Lys Leu Ala Gly Pro Val Thr Phe
                85   90   95

Tyr Gln Lys Val Lys Pro Arg Gln Lys Ser Val Ser Cys Ser Leu Pro
            100   105   110

Leu His Ile Phe Thr
        115

<210> 1674
<211> 90
<212> PRT
<213> Homo sapiens

<400> 1674
Met Asp Ser Gly Asp Gly Trp Leu Met Val Leu Val Gln Gln Leu His
                5   10   15

Glu Gly Arg Gly His Val Leu Asp Pro Phe Ala Leu Ile Ser Val Leu
            20   25   30

Val Thr Ser Trp Ser Gln Asp Gly Cys Cys Ile Pro Lys Asn His Val
        35   40   45

Cys Val Gln Gly Arg Arg Gly Gly Gly Arg Gly Arg Ala Lys Leu Ala
    50   55   60

Gly Pro Val Thr Phe Tyr Gln Lys Val Lys Pro Arg Gln Lys Ser Val
65   70   75   80

Ser Cys Ser Leu Pro Leu His Ile Phe Thr
                85   90

<210> 1675
<211> 102

<212> PRT
<213> Homo sapiens

<400> 1675
Met Gln Asn Cys Val Pro Val Ser Phe Cys Cys Val Thr Asn His Pro
                  5   10   15

Gln Thr Trp Gln Leu Glu Thr Asn Pro Val Phe Ser His Asn Pro Met
            20   25   30

Gly Trp Gln Phe Gly Leu Gly Ser Thr Gly Gln Phe Cys Cys Ser His
        35   40   45

Leu Gly Ser Leu Met Glu Leu Arg Ser Ala Val Thr Ser Ala Gly Pro
    50   55   60

Gly Trp Ser Arg Ile Ala Leu Leu Thr Cys Leu Ala Gly Asp Arg Leu
65   70   75   80

Leu Ala Gly Ile Ala Trp Phe Ser Ser Met Trp Pro Leu Gln Gln Ala
                85   90   95

Ser Ser Gly Leu Phe Thr
                100

<210> 1676
<211> 1336
<212> DNA
<213> Homo sapiens

<400> 1676
ctctaagcag catgtaacct ggcctgcatc caggaaatag aggacttcgg atccttctaa 60
ccctaccacc caactggccc cagtacattc attctctcag gaaaaaaaac aaggtcccca 120
cagcaaagaa aaggaatagg atcaagagat acgtggctgc tggcagagca agcatgaatt 180
cgatgacttc agcagttccg gtggccaatt ctgtgttggt ggtggcaccc cacaatggtt 240
atcctgtgac cccaggaatt atgtctcacg tgcccctgta tccaaacagc cagccgcaag 300
tccacctagt tcctgggaac ccacctagtt tggtgtcgaa tgtgaatggg cagcctgtgc 360
agaaagctct gaaagaaggc aaaaccttgg gggccatcca gatcatcatt ggcctggctc 420
acatcggcct cggctccatc atggcgacgg ttctcgtagg ggaatacctg tctatttcat 480
tctacggagg ctttcccttc tggggaggct tgtggtttat catttcagga tctctctccg 540
tggcagcaga aaatcagcca tattcttatt gcctgctgtc tggcagtttg ggcttgaaca 600
tcgtcagtgc aatctgctct gcagttggag tcatactctt catcacagat ctaagtattc 660
cccacccata tgcctacccc gactattatc cttacgcctg gggtgtgaac cctggaatgg 720
cgatttctgg cgtgctgctg gtcttctgcc tcctggagtt tggcatcgca tgcgcatctt 780
cccactttgg ctgccagttg gtctgctgtc aatcaagcaa tgtgagtgtc atctatccaa 840
acatctatgc agcaaaccca gtgatcaccc agaaccggt gacctcacca ccaagttatt 900
ccagtgagat ccaagcaaat aagtaaggct acagattctg gaagcatctt tcactgggac 960
caaaagaagt cctcctccct ttctgggctt ccataaccca ggtcgttcct gttctgacag 1020
ctgaggaaac gtctctccca ctgtttgtac tctcaccttc attcttcaat tcagtctagg 1080
aaaccatgct gtttctctat caagaagaag acagagattt taaacagatg ttaaccaaga 1140
gggactccct agggcacatg catcagcaca tatgtgggca tccagcctct ggggccttgg 1200
cacacacaca ttcgtgtgct ctgctgcatg tgagcttgtg ggttagagga acaaatatct 1260

agacattcaa tcttcactct ttcaattgtg cattcattta ataaatagat actgagcatt 1320
caatgtgaaa aaaaaa   1336

<210> 1677
<211> 250
<212> PRT
<213> Homo sapiens

<400> 1677
Met Asn Ser Met Thr Ser Ala Val Pro Val Ala Asn Ser Val Leu Val
                  5   10   15

Val Ala Pro His Asn Gly Tyr Pro Val Thr Pro Gly Ile Met Ser His
              20   25   30

Val Pro Leu Tyr Pro Asn Ser Gln Pro Gln Val His Leu Val Pro Gly
          35   40   45

Asn Pro Pro Ser Leu Val Ser Asn Val Asn Gly Gln Pro Val Gln Lys
      50   55   60

Ala Leu Lys Glu Gly Lys Thr Leu Gly Ala Ile Gln Ile Ile Ile Gly
65   70   75   80

Leu Ala His Ile Gly Leu Gly Ser Ile Met Ala Thr Val Leu Val Gly
                  85   90   95

Glu Tyr Leu Ser Ile Ser Phe Tyr Gly Gly Phe Pro Phe Trp Gly Gly
              100   105   110

Leu Trp Phe Ile Ile Ser Gly Ser Leu Ser Val Ala Ala Glu Asn Gln
          115   120   125

Pro Tyr Ser Tyr Cys Leu Leu Ser Gly Ser Leu Gly Leu Asn Ile Val
      130   135   140

Ser Ala Ile Cys Ser Ala Val Gly Val Ile Leu Phe Ile Thr Asp Leu
145   150   155   160

Ser Ile Pro His Pro Tyr Ala Tyr Pro Asp Tyr Tyr Pro Tyr Ala Trp
                  165   170   175

Gly Val Asn Pro Gly Met Ala Ile Ser Gly Val Leu Leu Val Phe Cys
              180   185   190

Leu Leu Glu Phe Gly Ile Ala Cys Ala Ser Ser His Phe Gly Cys Gln
          195   200   205

Leu Val Cys Cys Gln Ser Ser Asn Val Ser Val Ile Tyr Pro Asn Ile
      210   215   220

Tyr Ala Ala Asn Pro Val Ile Thr Pro Glu Pro Val Thr Ser Pro Pro
225   230   235   240

Ser Tyr Ser Ser Glu Ile Gln Ala Asn Lys
                    245   250

<210> 1678
<211> 177
<212> PRT
<213> Homo sapiens

<400> 1678
Thr Arg Pro Arg Arg Ala Ala Gln Gly Arg Arg Glu Ala Pro Pro Gly
                        5   10   15

Gly Glu Pro Glu Pro Arg Ala Ser Leu Ala Ala Pro Gly Glu Arg Ser
               20   25   30

Arg Ser Arg Ala Gly Asp Arg Gly Val Glu Ala Gly Pro Arg Arg Gly
           35   40   45

Arg Gly Arg Asn Ala Arg Cys Pro Gly Thr Gly Pro Asn Pro Pro Ala
       50   55   60

Ala Arg Asn Gly Met Ala Arg Pro Glu Leu Arg Pro Gly Gly Gly Gly
   65   70   75   80

Glu Ser Arg Gly Gly Gly Asp Asp Gly Ala Ala Cys Arg Arg Asn Ala
               85   90   95

Gly Gln Gly Arg Arg Gly Ser Gly Gly Ala Arg Gly Ala Arg Ala Glu
               100   105   110

Arg Arg Arg Ala Gly Arg Gln His Pro Leu Gly Pro His Arg Arg Gly
           115   120   125

Ala Gln Arg Ala Ala Glu Arg Ala His Pro Ala Ala Ala Val Arg Val
       130   135   140

Gly Pro Arg Gln Gly Ala Glu Pro Arg Gly His Asp Pro Gly Gly Pro
145   150   155   160

Arg Gln Arg Ala Pro His Arg Cys Pro Leu Asp Gln Arg Gly Pro Gly
                   165   170   175

Arg

<210> 1679
<211> 42
<212> PRT
<213> Homo sapiens

<400> 1679
Leu Val Cys Cys Gln Ser Ser Asn Val Ser Val Ile Tyr Pro Asn Ile

```
 1                    5                   10                  15
Tyr Ala Ala Asn Pro Val Ile Thr Pro Glu Pro Val Thr Ser Pro Pro
            20                  25                  30
Ser Tyr Ser Ser Glu Ile Gln Ala Asn Lys
        35                  40
```